

GW – 348

ACO

YEAR: 2009

Lowe, Leonard, EMNRD

From: Lowe, Leonard, EMNRD
Sent: Tuesday, April 28, 2009 11:32 AM
To: 'Anthony Wiggins'
Cc: Altomare, Mikal, EMNRD; Sanchez, Daniel J., EMNRD; Powell, Brandon, EMNRD; Perrin, Charlie, EMNRD; VonGonten, Glenn, EMNRD
Subject: GW-348, Chaco Chemical Co. Discharge Plan Application
Attachments: DP Application.pdf; DP Guide Oilfield.Service.pdf; New & Mod WQCC PN Rules.pdf; 2009_4-15ACOfenforcementltr.pdf

Importance: High

Mr. Anthony Wiggins,

Please submit an **entire discharge plan application** for your facility located at CR 5759 # 20, Farmington New Mexico.

I have attached:

1. The Discharge Plan application detailing all information needed for your facility. Please annotate the assigned discharge permit number, GW-348, on the application. *The application was previously sent in an e-mail on November 25, 2008.*
2. The Guidelines for the Preparation of discharge plans. *This was previously sent in an e-mail on November 25, 2008*
3. The WQCC rules for information needed to determine your application to be Administratively Complete, Paragraphs (1) through (5) of Subsection F of 20.6.2.3108 NMAC. AND required information needed for an applicant public notice Subsection F of 20.6.2.3108. All fonts in red pertain to the overall process of a NEW discharge permit. *This was previously sent in an e-mail on November 25, 2008.*
4. I have also attached the courtesy Finalized ACO from Mikal Altomare, Assistant General Counsel, dated April 15, 2009 indicating the current situation. The letter was received by Christine Wiggins on April 27, 2009.

Please submit required information ASAP.

llowe

Leonard Lowe

Environmental Engineer
Oil Conservation Division/EMNRD
1220 S. St. Francis Drive
Santa Fe, N.M. 87505
Office: 505-476-3492
Fax: 505-476-3462
E-mail: leonard.lowe@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/>



New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division



April 15, 2009

ENFORCEMENT OF FINAL ADMINISTRATIVE COMPLIANCE ORDER
NM-OCD 2009-001

Anthony Wiggins
Chaco Chemical Company, LLC.
P.O. Box 3526
Farmington, NM 87499
Certified Mail No.

***IMPORTANT-DEADLINES ENCLOSED**

Re: **ENFORCEMENT OF FINAL COMPLIANCE ORDER NM-OCD 2009-01**
Chaco Chemical Company, LLC.

Failure to apply for, obtain and maintain a discharge permit pursuant to WQCC Rules and the Water Quality Act. [OCD Discharge Permit File Designation: GW-348]

Dear Mr. Wiggins:

As you are aware, last month you received an Administrative Compliance Order, designated as **NM-OCD 2009-01** by the Oil Conservation Division, Environmental Bureau, which addressed your company's ongoing failure and refusal to apply for, obtain and maintain a discharge permit pursuant to WQCC Rules and the Water Quality Act. Certified mail return receipt reflects that Chaco received the Order on March 14, 2009. (*Attachment 1*). As provided in the Order, Chaco had thirty (30) days from the date of receipt of the Order to contest it, submit an Answer and request a hearing before the WQCC, which, based upon Chaco's date of receipt, made the deadline for such submissions April 13, 2009. (*Section VI, p.17-18*).

The deadline has now passed, and Chaco having submitted no such submissions or hearing requests pursuant to the provisions of the Order, the Order is now FINAL. For your reference, the language from NM-OCD 2009-01 relating to Order Finality is inserted below:

50. This Order shall become final unless the Respondent files a Request for Hearing and Answer with the WQCC within thirty (30) days of receipt of this Order. Failure to file an Answer constitutes an admission of all facts alleged in the Order and a waiver of the right to a hearing under Section 74-6-10(G) of WQA concerning this Order.

(*Section VII, ¶50, p. 18*).



The Order imposes a number of obligations upon Chaco, among which are several, specific upcoming deadlines. As a courtesy, we are contacting you now to reiterate these deadlines now that the Order has become final. As provided at pages 14-17 in Sections IV and V, Chaco is required to comply with the following deadlines:

- Chaco must submit the following by **Monday April 28, 2009**. Paragraphs 40(a-c) requiring submissions within 15 days of the Order becoming final (4/13/09):
 - Chaco must submit a full and complete discharge permit application to the Oil Conservation Division. 40(a)
 - Chaco must submit all information and documentation required for a determination of "administrative completeness" pursuant to section 3108. 40(b)
 - Chaco must provide the OCD with a preliminary list identifying all landowners within a 1/3 mile radius of the discharge location. The list should identify all known landowners currently known to Chaco to meet this criteria and should specify Chaco's plan and an estimated timeframe for ascertaining the identity of any as-yet unidentified landowners within that 1/3 mile radius. 40(c)

Please note: Your contact for submission of the above items relating to the discharge permit is:

LEONARD LOWE
OCD Environmental Bureau
505.476.3492
leonard.lowe@state.nm.state

- Chaco must remit the following civil penalty assessments by **Friday June 12, 2009**- Paragraphs 41 and 44 requiring payment of penalty assessment within 90 days of date of receipt (3/14/09):
 - \$79,000 (Paragraph 41, specifically relating to Chaco's failure to comply with WQCC rules following issuance of a formal notification on 4/2/02).
 - \$410,000 (Paragraph 43, relating to Chaco's renewed and continued failure to comply with WQCC rules following issuance of subsequent formal notification on 9/8/05).

TOTAL CIVIL PENALTY REMITTANCE DUE FROM CHACO BY FRIDAY JUNE 12, 2009 =
\$489,000

Please be aware that the Order includes provisions for the assessment of additional penalties on a per-day basis should Chaco fail to comply with either of the above-noted penalty assessments. (Paragraphs 43 and 46). Additionally, pursuant to NMSA 74-6-10(F)(1), additional per-day penalties can be assessed against Chaco for failure to comply with the other deadlines and obligations imposed by the Order as well. Finally, in the event of

*Enforcement of Final Administrative Compliance Order
NM-OCD 2009-01
Anthony Wiggins, Chaco Chemical Company, LLC
April 15, 2009
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noncompliance, the Division has the option of proceeding to District Court to seek injunctive relief.

If you have questions about the Order you may call me at (505) 476-3480. For questions specifically regarding the discharge permit or the application for the discharge permit, please direct your inquiries to Leonard Lowe.

Very truly yours,



Mikal Altomare
Assistant General Counsel

Encl: Attachment 1-certified mail return receipt.

Ec: Leonard Lowe, Environmental Engineer, OCD Environmental Bureau
Daniel Sanchez, Compliance and Enforcement Manager
Charlie Perrin, Supervisor, OCD District III
Brandon Powell, Environmental Specialist, District III
Glenn von Gonten, Acting Environmental Bureau Chief
Gail MacQuesten, Assistant General Counsel



New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division



March 13, 2009

NOTIFICATION OF COMPLIANCE/ENFORCEMENT ACTION

Anthony Wiggins
Chaco Chemical Company, LLC.
P.O. Box 3526
Farmington, NM 87499
Certified Mail No.

*RESPONSE REQUIRED-DEADLINES ENCLOSED

Re: **Chaco Chemical Company, LLC.**

Failure to apply for, obtain and maintain a discharge permit pursuant to WQCC Rules and the Water Quality Act. [*OCD Discharge Permit File Designation: GW-348*]

Dear Mr. Wiggins:

Please find enclosed an Administrative Compliance Order, designated as NM-OCD 2009-01 by the Oil Conservation Division, Environmental Bureau, directed to Chaco Chemical Company, LLC and regarding your company's ongoing failure and refusal to apply for, obtain and maintain a discharge permit pursuant to WQCC Rules and the Water Quality Act.

If you have questions about the Order you may call me at (505) 476-3480.

Very truly yours,

Mikal Altomare
Assistant General Counsel

Encl: WQCC Administrative Compliance Order No. NM-OCD 2009-01 with Exhibits A through O



Administrative Compliance Order NM-OCD 2009-01
Anthony Wiggins, Chaco Chemical Company, LLC
March 13, 2009
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Ec: Leonard Lowe, Environmental Engineer, OCD Environmental Bureau
Daniel Sanchez, Compliance and Enforcement Manager
Charlie Perrin, Supervisor, OCD District III
Brandon Powell, Environmental Specialist, District III
Wayne Price, Environmental Bureau Chief
Gail MacQuesten, Assistant General Counsel

STATE OF NEW MEXICO
NEW MEXICO OIL CONSERVATION DIVISION

IN THE MATTER OF
COMPLIANCE ORDER
NM-OCD 2009-01,
CHACO CHEMICAL
COMPANY, LLC,
RESPONDENT.

ADMINISTRATIVE COMPLIANCE ORDER

Pursuant to the New Mexico Water Quality Act ("WQA"), NMSA 1978, §§ 74-6-1 to 74-6-17, the Director of the New Mexico Oil Conservation Division (OCD), acting through his designee, the Environmental Bureau Chief of the Oil Conservation Division, issues this Compliance Order ("Order") to **Respondent Chaco Chemical Company, LLC**, (hereafter referred to as "Chaco"), to enforce the WQA and the Water Quality Control Commission ("WQCC") Rules, 20.6.2 NMAC, for violations of the WQA and WQCC Rules.

I. APPLICABLE/RELEVANT LEGAL STANDARDS

1. The specified purpose of WQCC Rules relating to discharge permit requirements (Sections 20.6.2.3000 -20.6.2.3114 NMAC) is to control discharges onto or below the surface of the ground so as to protect groundwater with an existing concentration of 10,000 mg/l or less TDS. *Section 20.6.2.3001 NMAC.*
2. The general standard for when a discharge permit is required is articulated by WQCC Rule 20.6.2.3104 NMAC, which provides:

Chaco Chemical Co. LLC

Administrative Compliance Order -NM-OCD 2009-01,

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March 13, 2009

DISCHARGE PERMIT REQUIRED: Unless otherwise provided by this Part, no person shall cause or allow effluent or leachate to discharge so that it may move directly or [sic] indirectly into ground water unless he is discharging pursuant to a discharge permit issued by the secretary. When a permit has been issued, discharges must be consistent with the terms and conditions of the permit. In the event of a transfer of the ownership, control, or possession of a facility for which a discharge permit is in effect, the transferee shall have authority to discharge under such permit, provided that the transferee has complied with Section 20.6.2.3111 NMAC, regarding transfers.

3. WQCC Rule 20.6.2.3106 NMAC sets out the procedure and requirements for submission of an application for discharge permit. This Rule requires that operators that have been provided with notice that they are required pursuant to WQCC rules to apply for and obtain such a permit, submit the discharge permit application within 120 days from the date of receipt of the notice. The specific requirements for the permit application are outlined in Subsection "C" of Rule 20.6.2.3106 NMAC, which provides:

C. A proposed discharge plan shall set forth in detail the methods or techniques the discharger proposes to use or processes expected to naturally occur which will ensure compliance with this Part. At least the following information shall be included in the plan:

- (1) Quantity, quality and flow characteristics of the discharge;
- (2) Location of the discharge and of any bodies of water, watercourses and ground water discharge sites within one mile of the outside perimeter of the discharge site, and existing or proposed wells to be used for monitoring;
- (3) Depth to and TDS concentration of the ground water most likely to be affected by the discharge;
- (4) Flooding potential of the site;
- (5) Location and design of site(s) and method(s) to be available for sampling, and for measurement or calculation of flow;

- (6) Depth to and lithological description of rock at base of alluvium below the discharge site if such information is available;
- (7) Any additional information that may be necessary to demonstrate that the discharge permit will not result in concentrations in excess of the standards of Section 20.6.2.3103 NMAC or the presence of any toxic pollutant at any place of withdrawal of water for present or reasonably foreseeable future use. Detailed information on site geologic and hydrologic conditions may be required for a technical evaluation of the applicant's proposed discharge plan; and
- (8) Additional detailed information required for a technical evaluation.

4. Section 74-6-10(C) of the WQA authorizes the assessment of a civil penalty of up to \$10,000 per day for each violation of a provision of the WQA or of a regulation or water quality standard adopted pursuant to the WQA.

II. FACTUAL BACKGROUND/FINDINGS OF FACT

5. OCD, a division of the executive branch agency, New Mexico Energy, Minerals, and Natural Resources Department, is charged with administration and enforcement of the Oil and Gas Act (OGA) and OCD Rules, including administration and enforcement of the WQA and the WQCC Rules as applied to New Mexico's oil and gas activity, which includes reviewing discharge plans and, where WQCC requirements have been met, issuing and renewing discharge permits to operators pursuant to WQCC Rules 20.6.2.3106 and 20.6.2.3104 NMAC 2008.

6. Chaco is a well service company with a facility located in Farmington, New Mexico. Until approximately October or November of 2008, Chaco's facility was located at 205 Elm Street, Farmington, after which time the

company moved locations and is now located at 20 County Road 5759, Farmington.

7. Chaco has never obtained an approved discharge permit pursuant to the WQA/WQCC Rules through the OCD.

8. On April 26, 1995 the OCD sent a certified letter to the address of record for Chaco, referencing a recent inspection that had been conducted at its facility, and articulating a number of deficiencies that had been discovered.

Exhibit A (4/26/95 certified letter from OCD to Chaco). Specifically, OCD inspectors determined that the following issues existed at the Chaco facility:

- Secondary containment for drums storing waste required but missing;
- Proper labeling of drums required;
- Impermeable containment required beneath drum storage area but not present; and
- Empty drums being improperly stored on premises.

Id.

9. OCD notified Chaco in the 4/26/95 letter that at that time the OCD was opting not to require Chaco to prepare and submit a discharge permit application. However, the OCD advised that a plan would be required if the noted deficiencies were not addressed, and specifically put Chaco on notice that while not yet required, at some point in the future, the OCD may find it appropriate to require that Chaco submit a discharge plan and obtain a permit for this facility. *Id.*

10. A May 24, 1995 follow-up inspection revealed that "overall" the operator appeared to be making an effort to implement the suggestions made by

the OCD following the April inspection. Exhibit B (4/26/95 letter with handwritten notations made following 5/24/95 inspection). It was noted that some of the issues identified in the previous inspection were being addressed. *Id.*

11. On April 2, 2002 the OCD sent a certified letter to Chaco, to follow up regarding an inspection performed on March 5, 2002 during which a number of deficiencies had been identified. Exhibit C. (4/2/02 certified letter from OCD to Chaco). It was noted that Chaco had not ever fully addressed all of the issues identified in the April 1995 inspection, and Chaco was informed that the following issues were specifically observed on March 5th:

- Improper storage of drums;
- Plastic liner under drum rack is damaged and inadequate to protect ground;
- General housekeeping is below OCD standards;
- Unidentified 5 gallon containers were observed being stored in the office, and should be stored in more appropriate location and with secondary containment;
- Unlabeled saddle tanks with no secondary containment;
- Mislabeled containers;
- Numerous small bottles, most unlabeled, containing a wide variety of chemicals and not properly stored - some outdated/very old; and
- Various unlabeled vials in the refrigerator.

Id. and Exhibit D (Photos from 3/5/02 inspection).

12. The 4/2/02 letter served as specific notice to Chaco that it was now required to submit a discharge plan permit application pursuant to WQCC Rule 20.6.2.3104 NMAC, and that the letter constituted a formal request by the OCD for submission of a discharge plan permit application. *Id.* Chaco was advised

that it had 120 days from the date of receipt of the letter within which to make the plan submission, and was also informed of the associated fees. *Id.*

13. Records reflect that the 4/2/02 letter was received and signed for by Christine Wiggins on April 5, 2002. **Exhibit F.**¹ Based on this date of receipt, the timeframe noted in letter and the specifications of WQCC Rule 3104, the submission from Chaco was due to OCD no later than July 31, 2002.

14. **No submission was received from Chaco by the July 31, 2002 deadline in response to the 4/2/02 letter.**

15. On September 16, 2002, the OCD sent a Notice of Violation ("NOV") to Chaco referencing the 4/2/02 notification that a discharge permit application was required, and informing Chaco that because Chaco had never submitted the required application it was in violation of WQCC regulation 20.6.2.3106.A NMAC. **Exhibit E.** (9/16/02 certified letter from OCD to Chaco).

16. On September 24, 2002, Roger Anderson, Environmental Bureau Chief of the OCD spoke by telephone with Anthony Wiggins of Chaco, at which time Mr. Wiggins claimed that he had not received the 9/16/02 NOV. The 4/2/02 letter and Chaco's need to submit a discharge permit application were discussed.

¹ As referenced by Environmental Bureau Chief Roger Anderson in the Notice of Violation issued on 9/24/02 (**Exhibit F**). The actual return of service documentation bearing the date and signature of Ms. Wiggins cannot be located. However, upon information and belief, based upon the notation in the NOV dated 9/24/02, the 4/2/02 letter was received by Chaco on 4/5/02 and signed for by Ms. Christine Wiggins.

17. On September 24, 2002, in response to Mr. Wiggins' claim that the 9/16/02 NOV was not received, the OCD re-issued a NOV to Chaco for its failure to submit a discharge permit application. Reference to the telephone conversation of that date was made, and a deadline of October 28, 2002 was set for submission of the discharge permit application to the OCD, as well as for all associated fees (both the application fee of \$100 and the flat fee of \$1,700).

Exhibit F. (9/24/02 NOV sent by certified mail to Chaco).

18. As of February 18, 2003 the OCD still had not received the discharge permit application from Chaco. The OCD sent another letter to Chaco instructing Chaco to make contact to discuss the outstanding application.

Exhibit G. (2/18/03 certified letter from OCD to Chaco).

19. On March 23, 2005, the OCD inspected the Chaco facility and discovered a number of violations, including evidence of contamination of the ground. The following issues were identified at that inspection:

- Contamination observed on ground surface;
- Drum condition and arrangement is not consistent with OCD specifications;
- Drums on site without proper containment;
- Improper labeling of drums;
- Improper drum storage; and
- Unknown chemical residue on the ground.

Exhibit H. (9/8/05 NOV sent by certified mail to Chaco).

20. Chaco was informed by the OCD inspector of the issues identified

at the 3/23/05 inspection, but no follow up was received by the OCD from Chaco addressing these expressed concerns. *Id.*

21. On September 8, 2005, another NOV was issued, this time by OCD Director/Chairman of the Oil Conservation Commission, Mark Fesmire, to Chaco to address ongoing deficiencies at its Farmington facility and Chaco's continuing refusal to submit a discharge permit application. *Id.* The 9/8/05 NOV provided Chaco with a chronological summary of Chaco's persisting noncompliance and the OCD's efforts to obtain compliance from Chaco since 1995 and advised Chaco of what it needed to do to come into compliance. *Id.* Director Fesmire set a deadline of September 26, 2005 for submission of the overdue discharge permit application. *Id.* Chaco was specifically advised that pursuant to the WQA Section 74-6-10(A), failure to comply could result in the assessment of penalties in amounts of up to \$10,000 per day, as well as court action seeking injunctive or other relief. *Id.*

22. **Chaco did not submit its discharge permit application on or before the stated September 26, 2005 deadline.**

23. On July 29, 2008, OCD inspectors attempted to conduct an inspection of the Chaco facility. However, upon attempting to do so, they were informed by Tony Archuleta, owner, that he had recently sold the company to Anthony Wiggins and his brother, and that the Wiggins brothers had moved the facility to another Farmington location. Inspectors were not initially able to

locate the new facility.

24. On November 20, 2008, having located the new Chaco site, OCD conducted an inspection at the new location, 20 County Road 5759, Farmington, and were accompanied by Mr. Anthony Wiggins. At the time of the inspection, the requirement for a discharge permit was discussed with Mr. Wiggins. Mr. Wiggins advised OCD inspectors he was willing to comply and submit an application: **Exhibit I.** (*Summary Report and Photos from 11/20/08 OCD inspection of Chaco facility*).

25. The 11/20/08 inspection yielded the identification of a number of concerns, including:

- **HOUSEKEEPING:** improperly placed empty/partially full barrels; discharge on the ground of an assumed hydrocarbon substance; barrel assumed to be empty that had been placed directly adjacent to neighboring property.
- **DRAINAGE/CONTAINMENT:** questionable integrity of secondary containment and its drainage; cement floor appears porous and is not curbed.
- **STORAGE:** empty/partially empty barrel storage is questionable/ barrels in direct contact with ground; discharge in "empty barrel" area.

Id.

26. On November 25, 2008 Environmental Bureau Engineer Leonard Lowe contacted Mr. Wiggins via email at the email address provided by Mr. Wiggins at the 11/20/08 inspection, and formally renewed the OCD's request that Chaco submit a discharge permit application. A number of documents and

additional information to assist Chaco/Wiggins in the preparation of the permit application were attached to this email correspondence. **Exhibit J.** (11/25/08 email from L. Lowe of OCD Environmental Bureau to A. Wiggins of Chaco, exclusive of referenced attachments).

27. On December 9, 2008, having not received any response to the 11/25/08 email, the OCD followed up by sending a formal written letter via certified mail setting a deadline for submission of the discharge permit application and fee of 45 days from the date of receipt of the 12/9/08 letter, and enclosing a number of documents to provide guidance to Chaco in the preparation of the application. **Exhibit K.** (12/9/08 letter sent by certified mail to Chaco, exclusive of referenced attachments).

28. Records reflect that on December 12, 2008, Christine Wiggins received and signed for the December 9, 2008 letter referenced in Paragraph 27 above. **Exhibit L.** (Return receipt card for certified letter sent 12/9/08 to Chaco, signed by C. Wiggins dated 12/12/08). As noted in the letter, Chaco's application was due to the OCD no later than 45 days from date of receipt, or January 26, 2009 based upon the 12/12/08 date of receipt.

29. On January 16, 2009, the OCD received a discharge permit application packet (ultimately determined to be insufficient) and a \$100 application fee from Chaco at which time OCD staff began its review of the submission to determine whether it was "administratively complete." **Exhibit M.**

(Discharge Permit Application, reference GW348, received from Chaco by OCD on 1/16/09).

30. On January 30, 2009 the OCD sent Chaco a certified letter confirming receipt of the application packet and fee, received 1/16/09, but advising Chaco that because certain materials and information were missing from the submission, the application was not sufficient and was therefore "administratively incomplete." Exhibit N. (1/30/09 certified letter from OCD to Chaco). Chaco was given an opportunity to remedy the deficiencies of its submission and was advised that it had 15 days from receipt of the 1/30/09 letter to provide the additional, required information and materials as specified in that letter. *Id.* The letter specifically identified the following information and materials that Chaco would need to provide before the discharge permit application would be deemed "administratively complete" and the permitting process could move forward:

- Brief description of activities that produce discharge described in the application;
- Brief description of the expected quality and volume of the discharge;
- Depth to and TDS concentration of the groundwater most likely to be effected (the application noted groundwater was 7 feet below ground surface but failed to specify the TDS); and
- Draft public notice for OCD review and approval to be used in all future postings relating to this permit under WQCC Rules.

Id.

31. Records reflect that the 1/30/09 letter was received by Chaco

(signed for by Christine Wiggins) on February 3, 2009, establishing a deadline of February 18, 2009 for submission of the additional materials by Chaco (15 days from date of receipt). **Exhibit O.** (*Return receipt card for certified letter sent 1/30/09 to Chaco signed by C. Wiggins dated 2/3/09*).

32. Chaco did not submit the additional required materials by the February 18, 2009 deadline as required. **The discharge permit application remains "administratively incomplete."**

III. CONCLUSIONS OF LAW

33. OCD has jurisdiction over Chaco and over the subject matter of this Order pursuant to the Oil and Gas Act [Section 70-2-12.B(22) NMSA 1978, as amended] the WQA and WQCC Rules.

34. Chaco is a "person" as defined in Section 70-2-33.A of the Oil and Gas Act, in Section 74-6-2.I of the WQA and in Section 20.6.2.711 NMAC (specifically defined to include "...partnerships, corporations, associations, responsible business or association agents or officers.>").

35. The Farmington Chaco facility is a "source" for water contaminants that may be discharged directly or indirectly into surface or groundwater, as defined in New Mexico Water Quality Act Section 74-6-2.M (defining "source" as "...a building, structure, facility or installation from which there is or may be a discharge of water contaminants directly or indirectly into water.>").

36. The initial formal notice issued to Chaco pursuant to WQCC Rules

20.6.2.3104 and 20.6.2.3106 NMAC, dated 4/2/02, required Chaco to submit a discharge permit application within 120 days of receipt as provided by WQCC Rules. The notice was received by Chaco on 4/5/02, and the deadline for submission was therefore July 31, 2002. Chaco violated WQCC Rules 20.6.2.3104 and 20.6.2.3106 NMAC by failing to submit a full and complete discharge permit application on or before the July 31, 2002 deadline as required. Chaco has remained in violation of WQCC Rules since the disregarded July 31, 2002 deadline, and has now been in violation a total of 6 years and 7 months since that date.

37. The NOV issued in September of 2002 set a deadline of October 28, 2002 for Chaco to comply and submit a discharge permit application as required by the WQCC Rules. Chaco again failed to meet this deadline, and a total of 6 years and 4 months has now passed since Chaco disregarded the October 28, 2002 deadline.

38. The NOV issued in September of 2005 by the OCD Director set an updated deadline of September 26, 2005 for Chaco to comply and submit a discharge permit application as required by WQCC Rules, specifically reiterating the WQCC requirements and the potential consequences for noncompliance should Chaco continue to refuse to comply. Chaco disregarded this deadline as well, and its unpermitted operations have now persisted for 3 years and 5 months beyond the deadline set by the September 2005 NOV.

39. Chaco is in longstanding and continued violation of WQCC Rules 20.6.2.3104 and 20.6.2.3106 due to its persistent failure and refusal to submit, obtain and maintain a discharge permit for its Farmington facility. Chaco has therefore been in violation of the New Mexico Water Quality Act ("WQA"), NMSA 1978, §§ 74-6-1 to 74-6-17 for over six years, and continues to remain in violation of the New Mexico WQA.

IV. COMPLIANCE ORDER

40. Chaco shall comply with the following schedule of compliance, and submit for OCD approval the following documents and/or perform the following tasks by the deadlines specified below:

- a. Chaco shall, **within fifteen (15) days of this Order becoming Final** (as provided in Section VII, below) submit/resubmit a full and complete application for discharge permit.
 - i. The submission shall be consistent with the Discharge Plan Application Guidelines previously provided to Chaco.
 - ii. Required components of the submission are outlined within the application itself at Points 1 through 13.
 - iii. Chaco's submission shall include all properties associated with Chaco Chemical Company's operations and shall include not only the property designated in its previous submission to the OCD but also the property being used by Chaco for empty-barrel storage located to the west of the property identified in the previous submission.
- b. **Within fifteen (15) days of this Order becoming Final** (as provided in Section VII, below), Chaco shall submit the information required to render its application "administratively complete" as provided by WQCC Rule 20.6.2.3108 NMAC.
- c. **Within fifteen (15) days of this Order becoming Final** (as provided in Section VII, below), Chaco shall provide the OCD with a preliminary list identifying all landowners within a 1/3 mile

radius of the discharge location. The list should identify all known landowners currently known to Chaco to meet this criteria and should specify Chaco's plan and an estimated timeframe for ascertaining the identity of any as-yet unidentified landowners within that 1/3 mile radius.

- d. After submitting the discharge permit application, Chaco shall ensure that it is available to the OCD should questions or concerns arise during the permit application review process. Upon the request of the OCD, Chaco shall submit additional information requested by the OCD for purposes of assisting in the processing of the permit application.
- e. Upon issuance of a discharge permit by the OCD, Chaco shall at all times abide by the conditions of that permit.

V. CIVIL PENALTY

A. CIVIL PENALTY ASSESSMENT RELATING BACK TO INITIAL NOTICE ISSUED TO CHACO APRIL 2, 2002

41. Separate from and in addition to the civil penalty set forth below in Section V(B), and specifically relating to the Respondent's failure to comply with WQCC Rules following the issuance of formal notification on 4/2/02 that a discharge permit application was required pursuant to WQCC Rules 206.2.3104 and 20.6.2.3106 NMAC, the OCD hereby assesses a civil penalty against the Respondent in this Order of \$79,000. This penalty amount is derived and calculated as follows:

- \$1,000 per month of violation of the WQA/WQCC since the passing of the **July 31, 2002** deadline for submission of a discharge permit application as established by the notification issued on April 2, 2002. The total time elapsed to date since the July 31, 2002 deadline is **79 months**, for a total of \$79,000.

UNLESS RESPONDENT REQUESTS A HEARING AND FILES AN ANSWER AS PROVIDED IN SECTION VI, BELOW, THE PENALTY PROPOSED IN THIS ORDER SHALL BE DUE AND PAYABLE WITHOUT FURTHER PROCEEDING WITHIN NINETY (90) DAYS OF THE DATE OF RESPONDENT'S RECEIPT OF THIS ORDER.

42. The \$79,000 penalty assessment identified in Paragraph 41, above, relates only to the specific violation described: the violation by Chaco of WQCC Rules 3104 and 3106 beginning on July 31, 2002 and continuing to the present (currently a total of 79 months).

43. If Chaco fails to comply with the civil penalty assessment set forth above the Director of OCD may assess an additional civil penalty of up to \$10,000 for each day of noncompliance with the Order. NMSA 1978, § 74-6-10(F)(1).

B. CIVIL PENALTY ASSESSMENT RELATING BACK TO SUBSEQUENT NOTICE/NOTICE OF VIOLATION ISSUED ON SEPTEMBER 8, 2005

44. Separate from and in addition to the civil penalty set forth above in Section V(A), and specifically relating to the Respondent's renewed and continued failure and refusal to comply with WQCC Rules following the issuance of a subsequent formal notification that a discharge permit application was required pursuant to WQCC Rules 206.2.3104 and 20.6.2.3106 NMAC, such notification being issued in the form of a Notice of Violation sent to Respondent on September 8, 2005, the OCD hereby assesses a civil penalty against the Respondent in this Order of \$410,000. This penalty amount is derived and calculated as follows:

- \$10,000 per month of violation of the WQA/WQCC since the passing of the **September 26, 2005** deadline for submission of a discharge permit application as established by the subsequent formal notification and Notice of Violation issued on September 8, 2005. The total time elapsed to date

Chaco Chemical Co. LLC

Administrative Compliance Order -NM-OCD 2009-01,

Page 16 of 20

March 13, 2009

since the September 26, 2005 deadline is **41 months**, for a total of **\$410,000**.

UNLESS RESPONDENT REQUESTS A HEARING AND FILES AN ANSWER AS PROVIDED IN SECTION VI, BELOW, THE PENALTY PROPOSED IN THIS ORDER SHALL BE DUE AND PAYABLE WITHOUT FURTHER PROCEEDING WITHIN NINETY (90) DAYS OF THE DATE OF RESPONDENT'S RECEIPT OF THIS ORDER.

45. The \$410,000 penalty assessment identified in Paragraph 44, above, relates only to the specific violation described: the renewed and continued violation by Chaco of WQCC Rules 3104 and 3106 as calculated beginning on September 26, 2005 and continuing to the present (currently a total of 41 months).

46. If Chaco fails to comply with the civil penalty assessment set forth above the Director of OCD may assess an additional civil penalty of up to \$10,000 for each day of noncompliance with the Order. NMSA 1978, § 74-6-10(F)(1).

VI. RIGHT OF OPERATOR TO ANSWER AND REQUEST A HEARING

47. Pursuant to Section 74-6-10.G of the WQA, Respondent has the right to answer this Order and to request a hearing. If the Respondent:

- (a) contests any material or legal matter upon which the Order is based,
- (b) contends that the Respondent is entitled to prevail as a matter of law, or
- (c) otherwise contests the appropriateness of the Order:

The Respondent may request a hearing by mailing or delivering within thirty (30) days of receipt of this Order, a written "Request for Hearing and Answer to the Order" to:

WATER QUALITY CONTROL COMMISSION HEARING CLERK
HAROLD RUNNELS BUILDING, RM. 2050 SOUTH
1190 SAINT FRANCIS DRIVE
P.O. BOX 26110
SANTA FE, NEW MEXICO 87502-6110

The Respondent **must** attach a copy of this Order to the Request for Hearing.

48. The Respondent's Answer shall clearly and directly admit, deny or explain **each** of the factual allegations contained in the Order with regard to which the Respondent has any knowledge. Where the Respondent has no knowledge of a particular factual allegation, the Respondent shall so state, and the Respondent may deny the allegation on that basis. **Any allegation of the Order not specifically denied shall be deemed admitted.**

49. The Respondent's Answer shall also include any affirmative defense upon which the Respondent intends to rely. **Any affirmative defense not asserted in the Answer, except a defense asserting lack of subject matter jurisdiction, shall be deemed waived.**

VII. FINALITY OF ORDER

50. This Order shall become final unless the Respondent files a Request for Hearing and Answer with the WQCC within thirty (30) days of receipt of this Order. **Failure to file an Answer constitutes an admission of all facts alleged in the Order and a waiver of the right to a hearing under Section 74-6-10(G) of WQA concerning this Order.**

UNLESS THE RESPONDENT REQUESTS A HEARING AND FILES AN ANSWER AS OUTLINED ABOVE, THE SCHEDULE OF COMPLIANCE SET FORTH IN THIS ORDER SHALL BECOME FINAL.

VIII. SETTLEMENT CONFERENCE

51. Whether or not Respondent requests a hearing and files an Answer, the Respondent may confer with OCD concerning settlement. OCD encourages

settlement consistent with the provisions and objectives of the WQA and applicable WQCC rules. Settlement discussions do not extend the thirty (30) day deadline for filing the Respondent's Answer and Request for Hearing, or alter the deadlines for compliance with this Order. Settlement discussions may be pursued as an alternative to and simultaneously with the hearing proceedings. The Respondent may appear at the settlement conference independently and/or be represented by legal counsel.

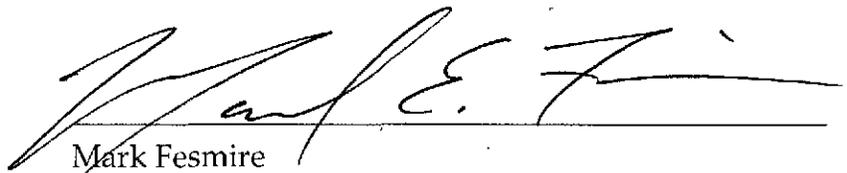
52. Any settlement reached by the parties shall be finalized by written stipulated final order. A stipulated final order must resolve all issues raised in the Order, must be approved by the Director of OCD, shall be final and binding all parties to the Order, and shall not be appealable.

53. To explore the possibility of settlement in this matter, contact Mikal Altomare, Assistant General Counsel, Office of General Counsel, New Mexico Oil Conservation Division, 1220 St. Francis Drive, Santa Fe, New Mexico 87505, 505-476-3480.

54. Compliance with the requirements of this Order does not relieve Respondent of the obligation to comply with all other applicable laws and regulations.

IX. TERMINATION OF ORDER

55. This Order shall terminate when Respondent certifies that all requirements of this Order have been met, and OCD has approved such certification, or when the Director of OCD approves a stipulated final order.



Mark Fesmire
Director- Oil Conservation Division

STATE OF NEW MEXICO
NEW MEXICO OIL CONSERVATION DIVISION

IN THE MATTER OF
COMPLIANCE ORDER
NM-OCD 2009-01,
CHACO CHEMICAL
COMPANY, LLC,
RESPONDENT.

ADMINISTRATIVE COMPLIANCE ORDER- EXHIBITS

- **Exhibit A** - 4/26/95 certified letter from OCD to Chaco.
- **Exhibit B** - 4/26/95 letter with handwritten notations made following 5/24/95 inspection.
- **Exhibit C** - 4/2/02 certified letter from OCD to Chaco.
- **Exhibit D** - Photos from 3/5/02 inspection.
- **Exhibit E** - 9/16/02 certified letter from OCD to Chaco.
- **Exhibit F** - 9/24/02 NOV sent by certified mail to Chaco.
- **Exhibit G** - 2/18/03 certified letter from OCD to Chaco.
- **Exhibit H** - 9/8/05 NOV sent by certified mail to Chaco.
- **Exhibit I** - Summary Report and Photos from 11/20/08 OCD inspection of Chaco facility.
- **Exhibit J** - 11/25/08 email from L. Lowe of OCD Environmental Bureau to A. Wiggins of
- **Exhibit K** - 12/9/08 letter sent by certified mail to Chaco, exclusive of referenced attachments.
- **Exhibit L** - Return receipt card for certified letter sent 12/9/08 to Chaco, signed by C. Wiggins dated 12/12/08.
- **Exhibit M** - Discharge application submitted by Chaco 1/16/09
- **Exhibit N** - 1/30/09 certified letter from OCD to Chaco.
- **Exhibit O** - Return receipt card for certified letter sent 1/30/09 to Chaco signed by C. Wiggins dated 2/3/09.



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

April 26, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-672

Mr. Anthony T. Archuleta
CHACO CHEMICAL COMPANY, Inc.
P.O. Box 3526
Farmington, NM 87499

**RE: Discharge Plan Requirement Inspection
Farmington Facility
San Juan County, New Mexico**

Dear Mr. Archuleta:

Outlined below are the observations and findings made by the NMOCD team that recently inspected the Chaco Chemical Company, Inc. Facility at 205 Elm in Farmington, New Mexico.

1. Few lab tests done at the facility.
2. Sewage goes to city of Farmington POTW.
3. Lab sample bottles for field testing re-used.
4. Lab waste that does accumulate is not allowed to go down the sink - is used as flush.
Note: Drums that store the waste on site need some sort of secondary containment and also need to be labelled as NON-HAZARDOUS.
5. Drum storage area needs some sort of impermeable containment underneath it.
6. Empty drums need to be stored on their side with the bungs in place and horizontal to the ground.

NM-OCD 2009-01
EXHIBIT A

Mr. Anthony T. Archuleta
April 26, 1995
Page 2

7. No automotive servicing is done at the facility.
8. Make certain all drums are properly labelled.
9. At this point NMOCD will not require Chaco Chemical to prepare a Discharge plan; However should Chaco Chemical not implement the suggestions made by the NMOCD team a permit will be required. Further at some point in time NMOCD may find it appropriate to require a Discharge plan from Chaco Chemical.

If you any further questions or comments please feel free to call me at (505)-827-7156.

Sincerely,



Patricio W. Sanchez
Petroleum Engineer

XC Denny Foust



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

April 26, 1995 - May 24, 95 inspection
1:20 pm

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-672

Mr. Anthony T. Archuleta
CHACO CHEMICAL COMPANY, Inc.
P.O. Box 3526
Farmington, NM 87499

**RE: Discharge Plan Requirement Inspection
Farmington Facility
San Juan County, New Mexico**

Dear Mr. Archuleta:

Outlined below are the observations and findings made by the NMOCD team that recently inspected the Chaco Chemical Company, Inc. Facility at 205 Elm in Farmington, New Mexico.

1. Few lab tests done at the facility.
2. Sewage goes to city of Farmington POTW.
3. Lab sample bottles for field testing re-used.
4. Lab waste that does accumulate is not allowed to go down the sink - is used as flush.
Note: Drums that store the waste on site need some sort of secondary containment and also need to be labelled as NON-HAZARDOUS. — Drums labelled and stored inside of cut-off 55 gallon drums — acting as containment.
5. Drum storage area needs some sort of impermeable containment underneath it. — working on Drum Area — with Black plastic.
6. Empty drums need to be stored on their side with the bungs in place and horizontal to the ground. Drums stored properly



NM-OCd 2009-01
EXHIBIT B

Mr. Anthony T. Archuleta
April 26, 1995
Page 2

7. No automotive servicing is done at the facility.
8. Make certain all drums are properly labelled. — *Still needs to work on labelling.*
9. At this point NMOCD will not require Chaco Chemical to prepare a Discharge plan; However should Chaco Chemical not implement the suggestions made by the NMOCD team a permit will be required. Further at some point in time NMOCD may find it appropriate to require a Discharge plan from Chaco Chemical.

If you any further questions or comments please feel free to call me at (505)-827-7156.

Sincerely,

Patricio W. Sanchez
Petroleum Engineer

— overall looks like he is making an effort to implement suggestions.

XC Denny Foust

| | | |
|---|---|---|
| Is your RETURN ADDRESS completed on the reverse side? | SENDER: <ul style="list-style-type: none">• Complete items 1 and/or 2 for additional services.• Complete items 3, and 4a & b.• Print your name and address on the reverse of this form so that we can return this card to you.• Attach this form to the front of the mailpiece, or on the back if space does not permit.• Write "Return Receipt Requested" on the mailpiece below the article number.• The Return Receipt will show to whom the article was delivered and the date delivered. | I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee. |
| | 3. Article Addressed to: Mr. Anthony T. Archuleta Chaco Chemical Company, Inc. P.O. Box 3526 Farmington, NM 87499 | 4a. Article Number Z-765-962-672 |
| | 5. Signature (Addressee) | 4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise |
| | 6. Signature (Agent) | 7. Date of Delivery APR 27 1995 FARMINGTON, NM USPS |
| | 8. Addressee's Address (Only if requested and fee is paid) | |



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

April 2, 2002

CERTIFIED MAIL
RETURN RECEIPT NO. 7923-4191

Mr. Anthony T. Archuleta
Chaco Chemical Co., Inc.
P.O. Box 3526
Farmington, NM 87499

RE: DISCHARGE PLAN REQUIREMENT
FARMINGTON SERVICE FACILITY
SAN JUAN COUNTY, NEW MEXICO

Dear Mr. Archuleta:

The New Mexico Oil Conservation Division (OCD) conducted an inspection of your Farmington service facility in April, 1995 and again on March 5, 2002. The following is a listing of deficiencies noted during the inspection:

1. An NMOCD inspection made in 1995 revealed certain conditions that should have been addressed. This information was conveyed to you by our letter of April 26, 1995. These concerns have only partially been addressed.
2. Our inspection on March 5, 2002 showed the following:
 - a. Some drums in yard were not stored properly
 - b. The plastic liner installed under the elevated drum rack is damaged and does not provide adequate protection against chemicals stored on the rack from reaching the ground.
 - c. General housekeeping of facility is below our normal standards.
 - d. Unidentified 5-gal containers stored in office should be stored in a more suitable facility with containment.
 - e. Saddle tanks (unlabeled) with no containment.
 - f. Some labeled containers being used for a product not specified on the label.

NM-OCD 2009-01
EXHIBIT C

- g. Numerous small bottles of a wide variety of chemicals (some unknown) not stored properly and out of date.
- h. Unlabeled vials in refrigerator.

Based on inspection deficiencies and pursuant to the provisions of the New Mexico Water Quality Control Commission (WQCC) Regulations, you are hereby notified that the filing of a discharge plan is required for your existing Farmington Service Facility located at 205 Elm St., Farmington, San Juan County, New Mexico.

This notification of discharge plan requirement is pursuant to 20 NMAC 6.2.3104 and 20 NMAC 6.2.3106 of the WQCC Regulations. The discharge plan, defined in 20 NMAC 6.2.1101.P. of the WQCC Regulations, should cover all discharges of effluent or leachate at the facility or adjacent to the facility site. Included in the application should be plans for controlling spills and accidental discharges at the facility (including detection of leaks in below grade sumps, buried underground process tanks and/or piping), and closure plans for any pits or ponds whose use will be discontinued.

Also enclosed are an application and a copy of OCD Guidelines for the Preparation of Discharge Plans at Oil Field Service Facilities. Two copies of your discharge plan application are to be submitted to the Santa Fe office and one copy to the Aztec office for review purposes.

20 NMAC 6.2.3106.A. of the regulations requires submittal of the discharge plan application within 120 days of receipt of this notice unless an extension of this time period is sought and approved for good cause. 20 NMAC 6.2.3106.A. also allows discharges to continue without an approved discharge plan until 240 days after written notification by the Director of the OCD that a discharge plan is required. An extension of this time may be sought and approved for good cause.

Pursuant to the 20 NMAC 6.2.3114 "every billable facility submitting a discharge plan for approval, modification or renewal shall pay the fees specified in this section to the Water Quality Management Fund".

Every billable facility submitting a new discharge plan will be assessed a fee equal to the filing fee plus either a flat fee or discharge fee. The filing fee is \$100.00 and shall be submitted with the discharge plan application (nonrefundable). The remainder of the "total fee" for oil and gas service companies falls under the "flat fee" category and is equal to \$1700.00. The flat fee for an approved discharge plan may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the discharge plan, with the first payment due at the time of approval.

Please make all checks payable to: Water Management Quality Management Fund
C/o: Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505.

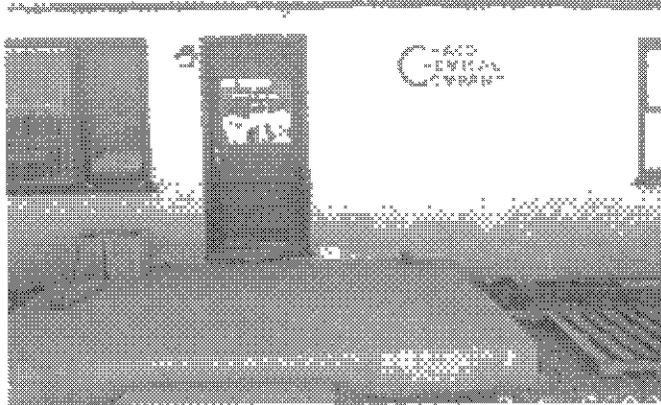
If there are any questions on this matter, please feel free to contact me at (505) 476-3490.

Sincerely,

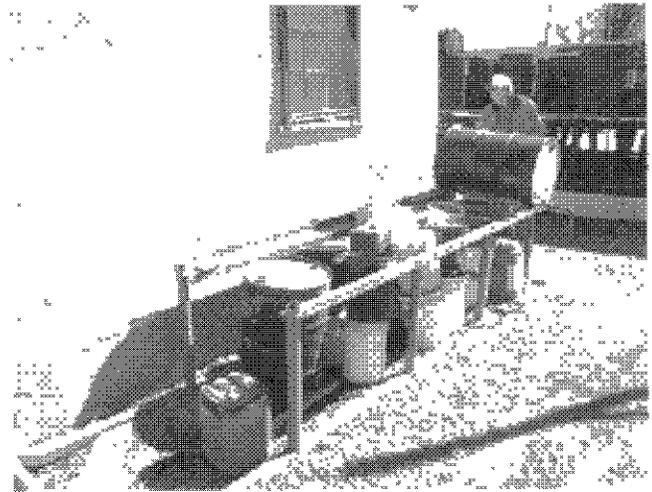
Roger C. Anderson
Environmental Bureau Chief

RCA/eem

xc: Denny Foust - OCD Aztec Office



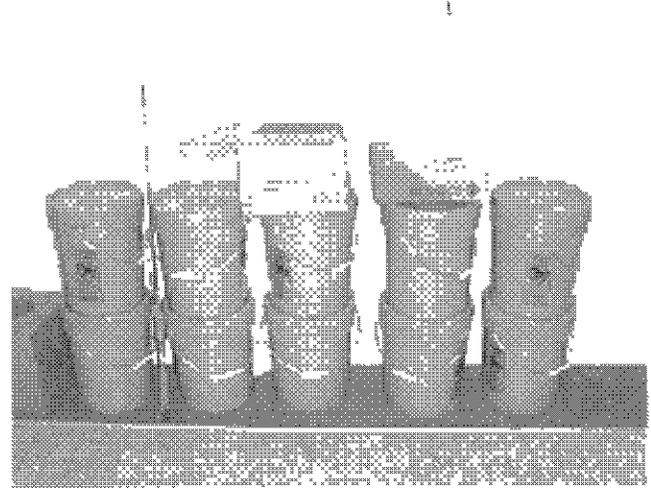
Claco Chemical Company Farmington
Office area



Drain Storage Area in yard of Claco Chemical
No containment.



Shelving in office area contains numerous
chemicals, some identified (labeled) and some not.
Some chemicals very old (1986-1987).

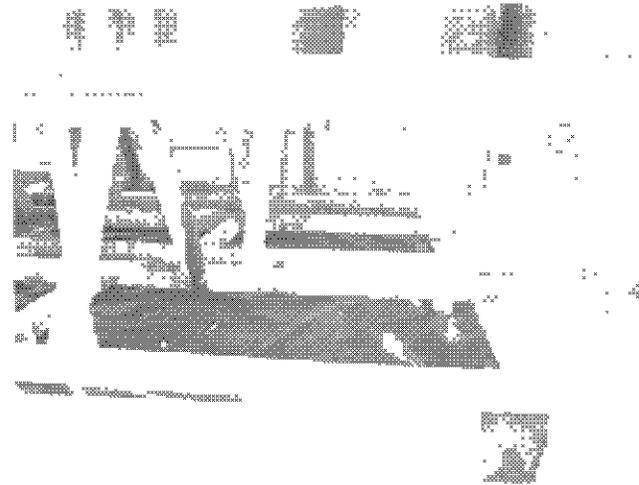


Chemicals stored in 5-gal. Containers in office area

NM-OCD 2009-01
EXHIBIT D



Chemical storage area in yard of Chaco Chemical



Elevated rack for chemical drum storage at Chaco Chemical. Note plastic liner beneath



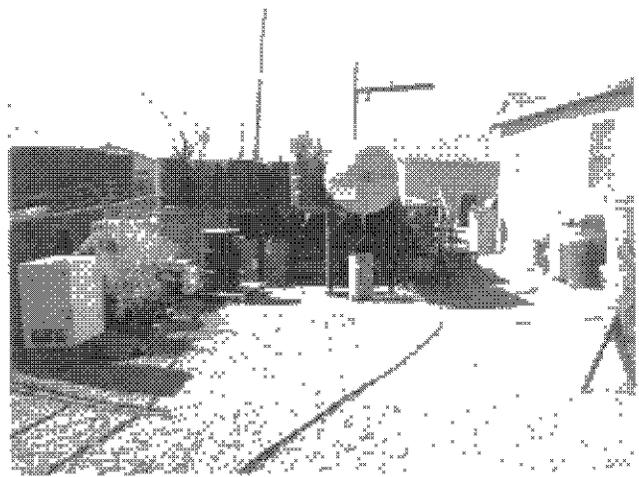
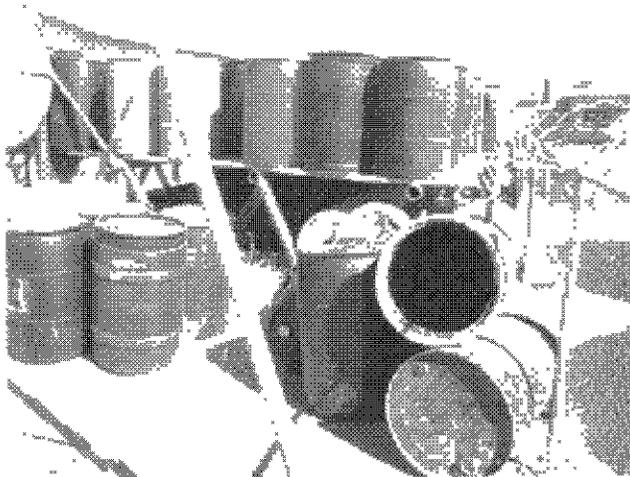
Tank area - Chaco Chemical - Farmington
Unknown chemicals - No Containment



Different view under elevated drum storage deck. Note that plastic liner does not extend completely to limits of deck area

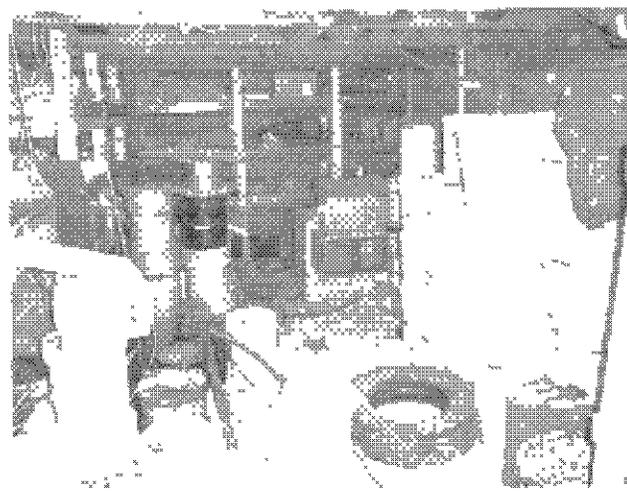


Views of Chaco Chemical Co. yard in Farmington

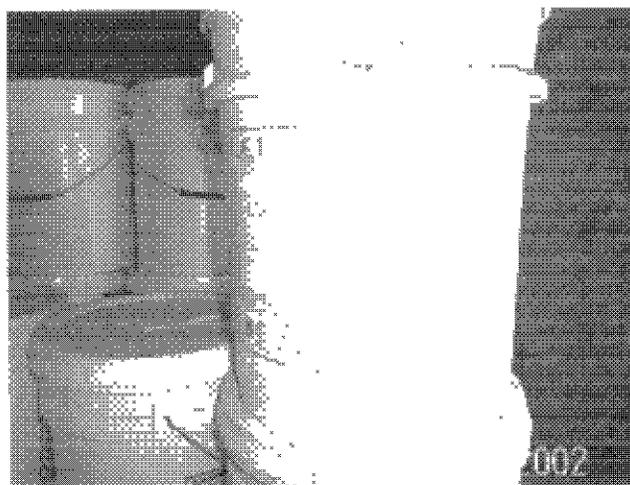




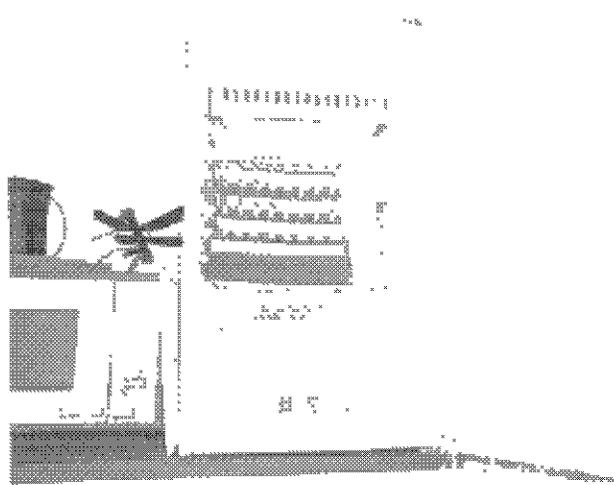
Storage shed in Chaco Chemical's yard



Inside view of storage shed Chaco Chemical



Example of materials stored in storage shed. This shed contained approximately 30-40 5-gal. Containers. One container was labeled HCl, but according to operator, did not contain HCl.



Refrigerator inside office area of Chaco Chemical. This refrigerator contained numerous small vials, none of which were labeled.



NEW MEXICO ENERGY, MINERALS and
NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
BETTY RIVERA
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 16, 2002

CERTIFIED MAIL
RETURN RECEIPT NO: 3929-9673

Mr. Anthony T. Archuleta
Chaco Chemical Co., Inc.
P.O. Box 3526
Farmington, NM 87499

RE: NOTICE OF VIOLATION: Chaco Chemical Co. Facility, Farmington, New Mexico

Dear Mr. Archuleta:

On April 2, 2002, the New Mexico Oil Conservation Division (OCD) notified Chaco Chemical Co., Inc. of deficiencies at its Farmington facility. The OCD required that Chaco submit an application for a Discharge Permit pursuant to the provisions of the New Mexico Water Quality Control Commission regulations.

To date the OCD has not received the application as required. As a result, Chaco Chemical Co., Inc. is in violation of 20 NMAC 6.2.3106.A. of the regulations. In order to correct this violation, the OCD requires that Chaco Chemical Co., Inc. submit, by November 9, 2002, a Discharge Permit application as set forth in our letter dated April 2, 2002, certified mail receipt number 7923-4191. Failure to provide this application may result in Chaco Chemical Co. Inc. being summoned to a show cause hearing before a Division Hearing Examiner where the Division staff will recommend issuance of a formal order requiring compliance with OCD rules. Such an order may include imposition of civil penalties.

If you have any questions, please contact Ed Martin of my staff at (505) 476-3492.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

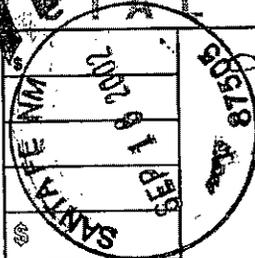
NM-OCD 2009-01
EXHIBIT E

xc: Frank Chavez, OCD Aztec District Office
David K. Brooks, OCD Legal Counsel

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Postage & Mail Only - No Insurance Coverage Provided)

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Return Receipt Fee
(Endorsement Required)
Restricted Delivery Fee
(Endorsement Required)
Total Postage & Fees



Postmark Here

GW-348 EP

7001 1940 0004 3929 9673

Sent To
ANTHONY T. ARCHULATA / Chaco Chem.
Street, Apt. No.,
or PO Box No. **P.O. Box 3526**
City, State, ZIP+4[®]
FARMINGTON, NM 87499

PS Form 3800, January 2001 See Reverse for Instructions



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 24, 2002

CERTIFIED MAIL
RETURN RECEIPT NO: 3929-9680

Mr. Anthony Wiggins
Chaco Chemical Co., Inc.
P.O. Box 3526
Farmington, NM 87499

RE: NOTICE OF VIOLATION: Chaco Chemical Co. Facility, Farmington, New Mexico

Dear Mr. Wiggins:

This letter is in response to our telephone conversation today concerning our letter to you dated April 2, 2002. Attached is a copy of this letter along with a copy of the certified mail receipt #7923-4191 signed by Christine Wiggins on April 5, 2002.

Per paragraph 2 of that letter, Chaco Chemical Co., Inc. is required to file an application for a discharge plan. This discharge plan constitutes a permit to operate Chaco Chemical Co.'s facility at 205 Elm St., Farmington, San Juan County, New Mexico, and is required by the regulations noted in paragraph 3.

Also attached is an application form for the above permit. **This application must be completed and submitted to the New Mexico Oil Conservation Division by October 28, 2002.** Fees associated with this permit are: \$100.00 filing fee plus \$1,700.00 flat fee. Total due with application: \$1,800.00.

If you have any questions, please contact Ed Martin of my staff at (505) 476-3492.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

NM-OCD 2009-01
EXHIBIT F

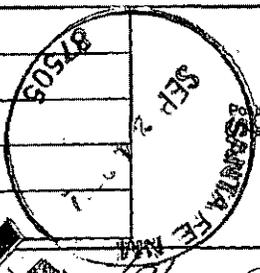
xc: Frank Chavez, OCD Aztec District Office
David K. Brooks, OCD Legal Counsel

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

096 6263 4000 046T 1002

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| Return Receipt Fee (Endorsement Required) | |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | |



EP
GWS

Sent To
ANTHONY WILKINS Chaco Chem. Co
Street, Apt. No.,
or PO Box No. **P.O. Box 526**
City, State, ZIP **FARMINGTON NM 87499**

PS Form 3800, January 1967



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

February 18, 2003

CERTIFIED MAIL
RETURN RECEIPT NUMBER: 3929-9789

Mr. Anthony T. Archuleta
Chaco Chemical Co., Inc.
P.O. Box 3526
Farmington, NM 87499

Dear Mr. Archuleta:

Following is a history of the inspections and correspondence concerning Chaco Chemical:

1. April 26, 1995. Letter to Mr. Anthony T. Archuleta, certified mail #Z-765-962-672. This letter recapped infractions noted during a physical inspection of the property. A copy of this letter is attached. No permit was recommended at that time as long as the suggestions in the letter were implemented. See item 9 of letter.
2. A subsequent inspection of May 24, 1995 revealed that Chaco staff was apparently making an effort to implement the suggestions shown in the April 26, 1995 letter.
3. OCD personnel again inspected Chaco's facility on March 5, 2002. At that time it was noted that Chaco was backsliding on some of the efforts they had previously made. As a result of this inspection, it was determined that Chaco Chemical would be required to operate under a discharge permit. A copy of the letter dated April 2, 2002, notifying you of this requirement is attached. See first full paragraph on page 2 of letter. A discharge permit application should have been received from you by August 2, 2002. Chaco Chemical did not submit the required application.

NM-OCD 2009-01
EXHIBIT G

4. September 16, 2002. A Notice of Violation was sent to Chaco Chemical certified mail receipt #3929-9673. This means that as of that date Chaco Chemical is in violation of state statutes as shown in the notice of violation. Copy attached.
5. September 24, 2002. A second copy of the notice of violation was sent to Chaco Chemical certified mail receipt #3939-9680. Copy attached.

The New Mexico Oil Conservation Division regulates oilfield service companies such as Chaco Chemical.

Please call me at 505-476-3492 so that we can discuss the elements of this letter.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ed Martin".

Ed Martin
Environmental Bureau

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 1940 0004 3929 9789

OFFICIAL RECEIPT

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|---|--|
| Postage \$ | |
| Certified Fee | |
| Return Receipt Fee (Endorsement Required) | |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | |

Postmark: FEB 19 2003
OR CONSERVATION DIVISION

505/18
FEB 18 2003

64348 60

Sent to: **CHACO Chemicals**
Street, Apt. No. or PO Box No.: **P.O. Box 1526**
City, State, ZIP+4: **FARMINGTON, N.M. 87499**



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

Mark E. Fesmire, P.E.

Director

Oil Conservation Division

September 8, 2005

Mr. Anthony T. Archuleta
Chaco Chemical Co., Inc.
P.O. Box 3526
Farmington, New Mexico 87499

CERTIFIED MAIL

Return Receipt

No. 7001-1940-0004-7920-7720

Re: Notice of Violation

Dear Mr. Archuleta:

Pursuant to NMSA 1978, Section 70-2-12(22) and Rule 19.15.1.12 NMAC, the New Mexico Oil Conservation Division (hereinafter, "OCD") has the authority and duty to regulate oil field service companies by enforcing relevant state statutes and OCD rules. Under NMSA 1978, Section 74-6-10, it is authorized to enforce New Mexico Environment Department rules and regulations pertaining to the protection of groundwater. See NMSA 1978, Section 74-6-2.

As you are aware, over the past several years, the OCD has conducted several investigations of Chaco Chemical Company, Inc.'s (hereinafter, "Chaco") facility located at 205 Elm Street, Farmington, New Mexico. Many deficiencies were found. The OCD notified Chaco of these deficiencies. These deficiencies indicate a potential for accidental leaks and spills from inadequate and or improper operation of the facility, which leaks and spills may result in polluting ground water.

The potential for leaks and spills triggered a requirement, under Rule 20.6.2.3104, that Chaco obtain a discharge permit. Chaco ignored this requirement, which is a violation of the Rule. Unfortunately, the potential for leaks and spills is now a reality, as documented in the OCD's March 2005 inspection.

The OCD is now requiring Chaco to remedy ten (10) years of on-going deficiencies, including applying for a discharge permit, or face severe penalties.

A summary of prior deficiencies, believed to be on going to this day, is as follows:

- A. By letter dated April 26, 1995 you were advised of a physical inspection conducted earlier that month. Several deficiencies were noted:

NM-OCD 2009-01

EXHIBIT H

Anthony T. Archuleta
Chaco Chemical Co., Inc.
September 8, 2005
Page 2

1. Drums that store waste on site need some sort of secondary containment.
2. Drum storage area needs an impermeable containment underneath it.
3. Empty drums need to be stored on their side with the bungs in place and horizontal to the ground.
4. Make certain all drums are properly labeled.

These deficiencies violate Rule 19.15.1.12, NMAC, which provides, in pertinent part, that "[a]ll operators, ... service companies ... or other persons shall at all times conduct their operations ... in a manner that will prevent waste of oil and gas, the contamination of fresh waters and shall not wastefully utilize oil or gas, or allow either to leak or escape from a natural reservoir, or from wells, tanks, containers, pipe or other storage, conduit or operating equipment."

B. By letter dated April 2, 2002, you were advised that on March 5, 2002 the OCD conducted a physical inspection of Chaco. Several deficiencies were noted:

1. Some drums in yard were not properly stored.
2. The plastic liner installed under the elevated drum rack is damaged and does not provide adequate protection against chemicals stored on the rack from reaching the ground.
3. General housekeeping of the facility is below normal standards.
4. Unidentified 5-gallon containers stored in the office should be stored in a more suitable facility with containment.
5. Saddle tanks (unlabeled) with no containment.
6. Some labeled containers being used for a product not specified on the label.
7. Numerous small bottles of a wide variety of chemicals (some unknown) not stored properly and out of date.
8. Unlabeled vials in refrigerator.

Again, these deficiencies violate Rule 19.15.1.12, NMAC.

By the same letter, Chaco was notified it was also in violation of Rules 20.6.2.3104 and 20.6.2.3106 NMAC. Rule 3104 provides that "no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless he is discharging pursuant to a discharge permit issued by the secretary. When a permit has been issued, discharges must be consistent with the terms and conditions of the permit." This rule applies to actual or potential discharges, which makes it applicable to Chaco and a requirement that it apply for a permit. Rule 3106 requires that Chaco submit a discharge plan for approval, with its permit application.

Anthony T. Archuleta
Chaco Chemical Co., Inc.
September 8, 2005
Page 3

The discharge plan is defined in 20.6.2.1101P NMAC. It covers all discharges of effluent or leachate at or adjacent to a facility. The application requires that Chaco present a plan for controlling spills and accidental discharges at the facility (including detection of leaks in below grade sumps, buried underground process tanks and/or piping), and closure plans for any pits or ponds that will no longer be in use.

Chaco failed to respond to OCD's letter.

- C. By letter dated September 16, 2002 (certified mail receipt 3929-9673), Chaco received a third notice of violation, this time for failure to file a discharge plan. This was a continuing violation of Rules 20.6.2.3104 and 20.6.2.3106 NMAC.

In a subsequent phone conversation, Chaco denied receiving the September 16, 2002 letter. Therefore, OCD mailed Chaco a second letter dated September 24, 2002 (certified mail receipt 3929-9680), with a copy of the September 16th letter attached. The second letter reiterated that a discharge permit is required for the facility.

Still no action was taken by Chaco.

- D. In yet another attempt to get Chaco to correct deficiencies, a letter dated February 18, 2003 (certified mail receipt 3929-9789) was sent recapping the results of the above inspections. Copies of pertinent letters and inspection results were attached.

Again, Chaco failed to respond.

- E. On March 23, 2005 Jack Ford, OCD, performed another inspection of the Chaco facility. The following deficiencies were noted to Chaco:

1. Contamination observed on ground surface.
2. Drum arrangement / condition does not meet specs.
3. Drums not in containment and unlabeled.
4. Empty drums improperly stored.
5. Unknown chemical residue on ground.

As usual, no response to these deficiencies was received from Chaco.

Not only do the latest deficiencies violate OCD Rule 19.15.1.12 NMAC, the ground surface contamination is a violation of Rules 20.6.2.3104 and 20.6.2.1201 NMAC, promulgated pursuant to the Water Quality Act.

Anthony T. Archuleta
Chaco Chemical Co., Inc.
September 8, 2005
Page 4

Rule 3104, as described above, prohibits discharges of effluent or leachate that may enter the ground water. Rule 1201 provides that "notice regarding discharges from facilities for the production, refinement, pipeline transmission of oil and gas or products thereof, the oil field service industry, oil field brine production wells, geothermal installations and carbon dioxide facilities shall be filed ... with the Oil Conservation Division." No notice of the prohibited discharge was received from Chaco.

It is clear that conditions at the facility have not improved over the past ten years, nor has Chaco applied for a discharge permit. These violations cannot continue.

Therefore, on September 26, 2005 the OCD will conduct another inspection of the facility. If the above deficiencies still exist, a compliance order requiring immediate compliance will be issued and civil penalties of up to \$10,000.00 per day will be assessed. See Section 74-6-10(A). Likewise, if a discharge permit application is not received in this office by September 26, 2005, appropriate action will be taken, which may include \$10,000.00 per day fines and / or court action seeking injunctive or other relief.

NEW MEXICO OIL CONSERVATION DIVISION



Mark E. Fesmire, P.E.
Director

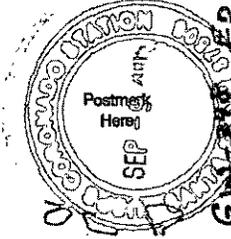
pc: OCD, Aztec

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7003 1940 0004 7920 7720

OFFICIAL USE

| | |
|---|---------|
| Postage | \$ |
| Certified Fee | |
| Return Receipt Fee (Endorsement Required) | |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | \$ 4.49 |



Sent To
ANTHONY T. ARCHULETA
Street, Apt. No.,
or PO Box No. **P.O. Box 3526**
City, State, ZIP+4
FARMINGTON, NM 87499

PS Form 3800, January 2001 See Reverse for Instructions

Chaco Chemical Company

New Location: 20 County Road 5759, Farmington N.M.
President: Mr. Anthony Wiggins, P.O. Box 3526, Farmington N.M. 87499
Office: 505-326-3050
Fax: 505-326-3927
Mobile: 505-320-2694
E-mail: chacochemical@netzero.com

OCD (Brandon Powell & Leonard Lowe) found and inspected the facility on November 20, 2008. Mr. Anthony Wiggins accompanied OCD on inspection visit.

The inspection concluded the following concerns (photos are attached):

1. Housekeeping issues: Photo 1, 2, 3. Barrels empty or partially full are improperly placed. Photo 2 shows a discharge on to the ground of assumed hydrocarbon substance. Photo 3 shows a barrel assumed empty improperly placed near adjacent resident.
2. Questionable integrity of secondary containment and its drainage: Photos 4, 5, 6, 7. The OCD was informed that structure is fairly new. The cement floor appears to be porous, Photo 6, and is not curbed, Photo 5. Mr. Wiggins informed the OCD that the floor drainage is not yet complete. When the plumbing is completed the drain will be flowed to a nearby ditch drainage.
3. Empty/partially empty barrel storage is questionable: the new location of Chaco Chemical is on two properties separated by a few hundred feet. The property located on the west side is currently being used as a storage area. Empty barrels are stored in this area, see photos 8 – 11. Barrels are located directly on the ground. A few barrels and released contents on to the ground, photo 10.

At the conclusion of inspection the OCD informed Mr. Wiggins of the reason for inspection, *referencing a discharge plan permit. The OCD informed Mr. Wiggins that we will submit a formal request for the application. Mr. Wiggins was willing to submit application.*

The OCD will send information to Mr. Wiggins for a request of a discharge plan permit for this facility.

NM-OCD 2009-01
EXHIBIT I

OCD Inspection: Chaco Chemical Company, GW - 348

Inspector(s): Brandon Powell and Leonard Lowe

Company Rep.: Anthony Wiggins

Date: 11/30/08

Time: 13:50 - 14:20

Page: 1



Photo 1: Full barrel located on east side of yard.

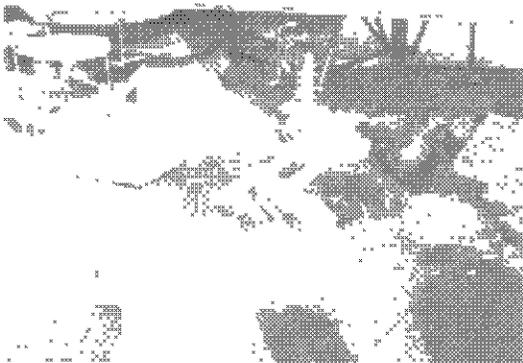


Photo 2: Discharge on to the ground near the northeast side of yard.



Photo 3: Barrel located on east side of yard adjacent to neighboring property.



Photo 4: Holding facility for barrels.

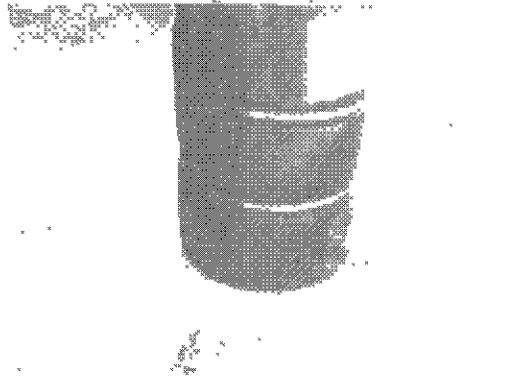


Photo 5: No curb on cement containment area.

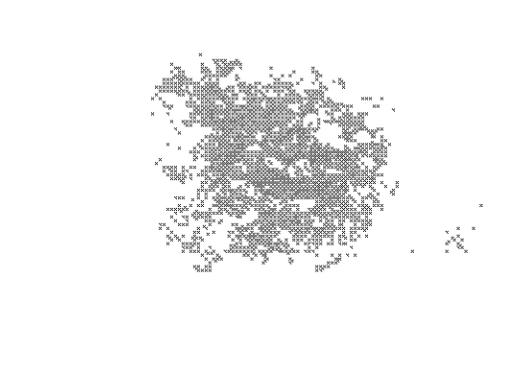


Photo 6: Drain in padded containment area. Drains to the south and outside of covered area.

OCD Inspection: Chaco Chemical Company, GW - 348

Inspectors: Brandon Powell and Leonard Lowe

Company Rep: Anthony Wiggins

Date: 11/20/08

Time: 13:50 - 14:20

Page: 2



Photo 7: Unidentified barrels in holding area.

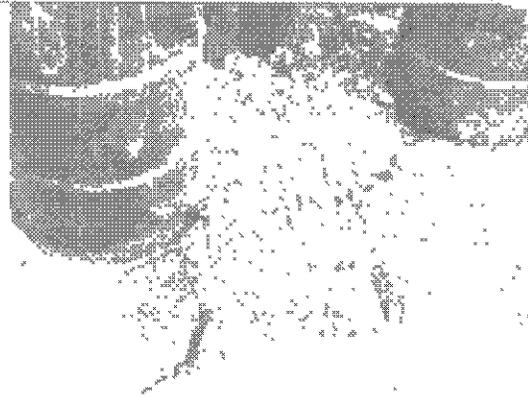


Photo 10: Discharge on to the ground in empty barrel area.

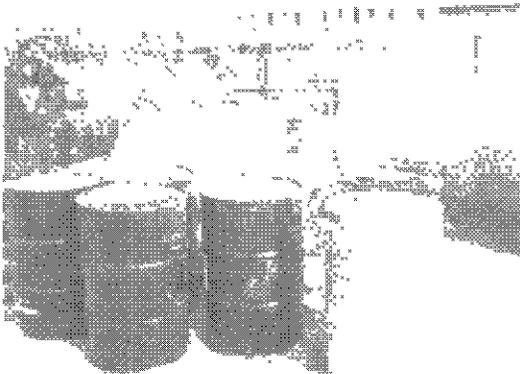


Photo 8: Empty barrel area.



Photo 11: Assorted empty barrel area.

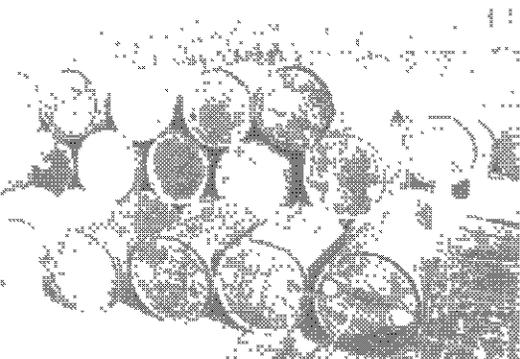


Photo 9: Assorted stacked empty barrels.

Lowe, Leonard, EMNRD

From: Lowe, Leonard, EMNRD
Sent: Tuesday, November 25, 2008 4:51 PM
To: 'chacochemical@netzero.com'
Cc: Powell, Brandon, EMNRD; Price, Wayne, EMNRD; Sanchez, Daniel J., EMNRD
Subject: GW-348, Chaco Chemical Company Discharge Permit request
Attachments: DP Application.pdf; DP Guide Oilfield.Service.pdf; New & Mod PN Flow Chart.pdf; New & Mod WQCC PN Rules.pdf

Mr. Anthon Wiggins
President, Chaco Chemical Company, Farmington N.M.

Good afternoon,

Thank you for allowing the OCD to inspection your facility on Thursday, November 20th, 2008.

In doing so we ask that Chaco Chemical Company apply for a discharge Plan permit for their facility in Farmington.

I have attached the information needed for Chaco Chemical to apply for a permit. The OCD has identified Chaco's permit as GW-348. Please reference that number on all documentation in reference to your permit submitted to the OCD.

If you have any questions please feel free to contact me.

Thank you again.

llowe

Leonard Lowe
Environmental Engineer
Oil Conservation Division/EMNRD
1220 S. St. Francis Drive
Santa Fe, N.M. 87505
Office: 505-476-3492
Fax: 505-476-3462
E-mail: leonard.lowe@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/>

NM-OCD 2009-01
EXHIBIT J

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson

Governor
Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division



December 9, 2008

Certified Mail: 700205100003512528

Mr. Anthony Wiggins
P.O. Box 3526
Farmington N.M. 87499

Re: Discharge Plan Submittal Request (Designated **GW-348**)
Chaco Chemical Company
20 County Road # 5759, Farmington N.M.
Farmington New Mexico, San Juan County

Dear Mr. Wiggins:

The New Mexico Oil Conservation Division Environmental Bureau performed an inspection of the above stated facility on November 20, 2008. The inspection concluded that per WQCC rules and regulations this company is classified as an Oil and Gas Service Company. Due to this facilities proximity to the San Juan River, location to residence and amount of chemicals on site that Chaco Chemical Company must submit an application for a discharge plan permit. All items required for initiating this process are attached to this letter and they are:

1. **Discharge Plan Application for Service Companies, Gas Plants, Refineries, Compressors, Geothermal Facilities and crude oil pump stations:** this is the cover sheet of your application. Fill in all blanks and attach information 1 – 13. Make sure you signed the bottom of this sheet.
2. **Guidelines for the preparation of discharge plans at oil field service facilities (revised 12-95):** this is the guidelines for defining the 1 – 13 points identified in the application cover.
3. **Notice Requirements for New Discharge Permits and Modifications:** this is a section of the WQCC requirements for public notices. All red text pertains to your facility and requirements. The entire WQCC regulation can be found on our website at this address (http://www.emnrd.state.nm.us/ocd/documents/NMAC_20_6_2-1.pdf).
4. **Example of Applicant Public Notice:** this is an example of an applicant public notice. The applicant fills in all areas in yellow as it pertains to the applicant's facility. *The OCD must approve this notice prior to publication.* The applicant may submit this along with the discharge plan application.
5. **WQCC Public Notice and Permitting Flowchart:** this is a visual flow chart on this entire process. Please refer to it for milestones in this application process.

The OCD identified a discharge plan number for this facility as GW-348; please annotate this to all documentation submitted to the OCD pertaining to this facilities discharge plan application.

NM-OCD 2009-01
EXHIBIT K

Oil Conservation Division * 1220 South St. Francis Drive
* Santa Fe, New Mexico 87505

* Phone: (505) 476-3440 * Fax (505) 476-3462* <http://www.emnrd.state.nm.us>



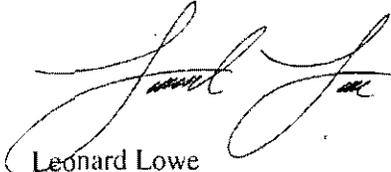
December 9, 2008

Page 2

The OCD Environmental Bureau is obligated by the New Mexico Water Quality Control Commission to protect the ground waters of the state of New Mexico. The OCD performs this task via a Discharge Plan Permit. Please submit the discharge plan application to the OCD within **45 days** of receipt of this letter. Along with your application a \$100.00 filing fee shall be submitted and payable to the New Mexico Water Quality Management Fund.

If you have any questions pertaining to this process please call me at (505) 476-3492 or e-mail me at leonard.lowe@state.nm.us.

Sincerely,



Leonard Lowe
Environmental Engineer
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
Office 505-476-3492

xc: Brandon Powell, Environmental Specialist, OCD Aztec
Daniel Sanchez, Enforcement and Compliance Manager, OCD Santa Fe

Chaco Chemical Company received Discharge Plan request letter on December 12, 2008.

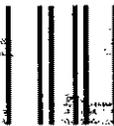
In 45 days

The Discharge Plan application is due in the OCD office on

January 26, 2009

| SENDER: COMPLETE THIS SECTION | COMPLETE THIS SECTION ON DELIVERY |
|--|---|
| <ul style="list-style-type: none">Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.Print your name and address on the reverse so that we can return the card to you.Attach this card to the back of the mailpiece, or on the front if space permits. | A. Signature <i>CHRISTINE WIGGINS</i> <input type="checkbox"/> Agent <input checked="" type="checkbox"/> Addressee B. Received by (Printed Name) <i>Christine Wiggins</i> C. Date of Delivery <i>12/12/08</i> |
| 1. Article Addressed to: Mr. Anthony Wiggins P.O. Box 3526 Farmington, NM 87499 | D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input checked="" type="checkbox"/> No 3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D. 4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes |
| 2. Article Number (Transfer from service label) : 7002 0510 0003 5125 2829 | |
| PS Form 3811, August 2001 | Domestic Return Receipt 102595-02-M-1035 |

UNITED STATES POSTAL SERVICE



First Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

RECEIVED

2008 DEC 16 PM 12 31
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87505



District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised June 10, 2003

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

**DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS,
REFINERIES, COMPRESSOR, GEOTHERMAL FACILITIES
AND CRUDE OIL PUMP STATIONS**

(Refer to the OCD Guidelines for assistance in completing the application)

New Renewal Modification

1. Type: Chaco Chemical Co. LLC Sales + Serv.
2. Operator: Anthony Wiggins
Address: CR 5759 # 20
Contact Person: Anthony Wiggins Phone: 505-320-2694
3. Location: 14 / 14 Section 20 Township 29 Range 12
Submit large scale topographic map showing exact location.

MAP

- ~~4.~~ Attach the name, telephone number and address of the landowner of the facility site.
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
6. Attach a description of all materials stored or used at the facility.
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
11. Attach a contingency plan for reporting and clean-up of spills or releases.
- ~~12.~~ Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

14. CERTIFICATION I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Anthony Wiggins

Title: Superintendent

Signature: [Signature]

Date: 1-16-09

E-mail Address: _____

NM-OCD 2009-01

EXHIBIT M

Group Account Parcel # Local# MH F Seq Tax Area Account Type Land EA Map Sub 1 Parent Parcel # Tax Yr
 2-071-170-478-008 SOUTH Commercial BS 190 2912 2009

[Summary](#)
[Land](#)
[Legal](#)
[Administrative Summary](#)
[Adjustment Details](#)
[Photos and Sketches](#)
[Documents](#)
[View History](#)

Subdivision: _____ Block/Lot/Tract: _____

| Section | Township | Range | Qtr | Qtr/Qtr | Gov Lot | Gov Tract | General Description |
|---------|----------|-------|-----|---------|---------|-----------|---------------------|
| ▶ 20 | 29 | 12 | SW | SW | | | |
| * | | | | | | | |

Legal

BEG 1133.20 FT S2 52 W AND 180.22 FT E FROM NW COR TRACT 1 OF GOLDIE CHAPMAN 202912 TRACTS.
 TH N2 52 E 142.30 FT E 149.78 FT S2 52 W 79.30 FT E 5.82 FT S2 52 W 63 FT W 155.6 FT TO BEG. B. 1389
 P. 528

Group Account Parcel # Local# MH #/Seq Tax Area Account Type Land EA Map Sub Parent Parcel # Tax Yr
 2-071-170-478-009 50UT Commercial BS-190 2912 2009

Summary Land Legal Administrative Summary Adjustment Details Photos and Sketches Documents View History

Ownership 1 of 1 Property Info Name Approach Census

WIGGINS FAMILY TRUST
 ATTN PAUL WIGGINS
 19 RD 5759
 FARMINGTON NM 87401

Str # Dir Name Type
 20 ROAD 5759

City Zip
 FARMINGTON 87401-0000 1 of 1

Sch Dist: 50UT
 Approach: Market
 Econ Area: Commercial
 # Bldgs: 1 Imp Only
 Acct Agr: ComF BP

| Bldg | Occupancy | % | Abstract |
|------|------------------|------|----------|
| 1 | 325 - Service Ga | 100% | 2235 |

| Bldg | Yr Blt | Rem | BlAs | Cls | Exterior | SF | Stry | Bdrm | Bath | MH | Make | MHL | MHW | Bldg | Type | Desc | Units |
|------|--------|-----|----------------|-----|----------|------|------|------|------|----|------|-----|-----|------|--------|-----------------|-------|
| 1 | 1982 | | Service Garage | D | | 1620 | 1 | 0 | 0 | | | 0 | 0 | 1 | Add Or | Int Frm Part Cl | -300 |

Active

Future 2009

Acct # R0052760

Group Account Parcel # Local# MH # Seg Tax Area Account Type Land EA Map Sub Parent Parcel # Tax Yr

2-071-170-478-008 50UT Commercial BS 130 2912 2009

Summary Land Legal Administrative Summary Adjustment Details Photos and Sketches Documents View History

| | | | | | |
|------------|-------------------------------------|--------------|--------|------------|-----------|
| Net Acres | 0.4900 | Gross Acres | 0.4971 | Appraiser | KMR |
| Net SF | 21,344 | Gross SF | 21,653 | Date Appr | 3/18/2008 |
| Sites/Tons | 1.00 | Easement SF | | Cert Code | |
| Net FF | 0 | Gross FF | | Land NC | \$0.00 |
| W/d/Dp | <input checked="" type="checkbox"/> | Excess SF | | Land Flags | |
| Vacant? | <input type="checkbox"/> | Flood Fringe | | LANDUPDATE | |
| Platted? | <input type="checkbox"/> | Flood Way | | VALUE1 | |
| Zoning/Far | 1.000 | Park Spaces | | VALUE3 | |
| 0 | 1.0000 | Traffic C | | * | |

| Attribute | Description | Adj |
|-----------|---------------------------|-----|
| Size | Undersize Lot [-0.1] -0.1 | |

| Type | Abstract | Ag Class | Value By | Measure | Acres | SF | FF | Units | Adj \$ Per | Actual Value |
|------------|----------|----------|----------|---------|-------|---------|----|-------|------------|--------------|
| Commercial | 2135 | | Market | Site | 0.49 | 21344.4 | 0 | 1 | 17100 | \$17,100 |

| Order # | Acct # | Recpt # | Parcel # | Date | Price | Adj Sale \$ | \$/Per | Land Val |
|---------|--------|---------|----------|------|-------|-------------|--------|----------|
| | | | | | | | | |

COM

QUITCLAIM DEED

GOLDIE A. CHAPMAN and KORA MAE CHAPMAN, his wife

for consideration paid, quitclaim

to PAUL RAYMOND WIGGINS and MARY CHRISTINE WIGGINS, his wife

whose address is 2016 Fairview Avenue, Farmington, New Mexico 87401

the following described real estate in San Juan County, New Mexico:

BEGINNING at a point which is 1155.2 feet South 2° 52' West and 180.22 feet North 89° 58' West from the Northwest corner of Tract 1 of the Plat of Tracts 1, 2, & 5 in the SW1/4SW1/4 of Section 20, and the SE1/4SE1/4 of Section 19, in Township 29 North, Range 12 West, N.M.P.M., as subdivided from the lands of Goldie Chapman as filed for record in the office of the San Juan County Clerk on March 16, 1966.

THENCE North 2° 52' East 79.5 feet;
THENCE North 89° 58' East 149.78 feet;
THENCE South 2° 52' West 142.5 feet;
THENCE South 89° 58' West 149.78 feet;
THENCE North 2° 52' East 65.0 feet, more or less, to the point of beginning.

EXCEPT the South one foot thereof.

WITNESS OUR hand and seal this 31st day of May, 1979

(Seal) *Goldie A. Chapman* (Seal)

(Seal) *Kora Mae Chapman* (Seal)

ACKNOWLEDGMENT FOR NATURAL PERSONS

STATE OF NEW MEXICO

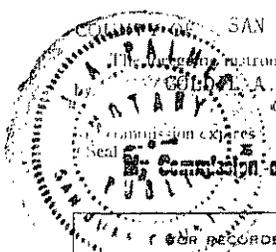
SAN JUAN

ss.

The foregoing instrument was acknowledged before me this 31st day of May, 1979

GOLDIE A. CHAPMAN and KORA MAE CHAPMAN, his wife
(Name or Names of Person or Persons Acknowledging)

J. Palmer
Notary Public



ACKNOWLEDGMENT FOR CORPORATION

STATE OF NEW MEXICO

ss.

COUNTY OF

The foregoing instrument was acknowledged before me this _____ day of _____, 19____

by _____ (Name of Officer)

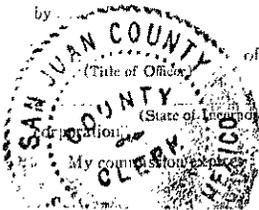
_____ (Name of Corporation Acknowledging)

_____ corporation, on behalf of said

_____ (State of Incorporation)

My commission expires _____

Notary Public



FOR RECORDER'S USE ONLY

FILED OR RECORDED

BOOK 856 PAGE 553

SAN JUAN COUNTY, NEW MEXICO

July 24, 1979

9:46 AM

Carol Sandy

COUNTY CLERK

DEPUTY

Rate \$5893 Fee \$3.00

1- ACRE LOT

Sloped Cement Slab For Chemical
8" Slope on sides
5" Slope in Back

68'

108'

Gate

Office

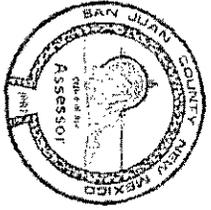
201 RECORDING
WAGNER FARM
ATTN: PAUL WAGNER
815044
10/14/04

Shop

10001487
2,071,110.78-000
SHERIFF'S PROCEED
8,147 P.023
0.00/01

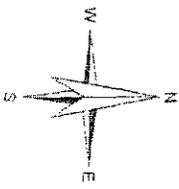
Gate

2007 RECORDING
CERRAS TORRENE
CORPORATION
1784
10/14/07



Legend

- Parcels
- Highways
- City Roads
- County Maintained
- Lesser County Maintained
- Navajo Route
- Oilfield Roads
- Private Roads
- Rivers
- Lakes
- Township/Range
- Sections
- Quarter Sections
- Atlec City Limits
- Elbow and City Limits
- Farrington City Limits
- Reservation



As a service provided to the public, the Assessor's Office has compiled the following depiction of available data. The San Juan County Assessor's Office assumes no liability for the accuracy of this information provided and it is not intended to be used as a survey. This map is to be used for assessment purposes only.

QUITCLAIM DEED

THIS QUITCLAIM DEED, Executed this 8TH day of JUNE, 2004, by PAUL R. WIGGINS and MARY CHRISTINE WIGGINS, first party, whose address is #19 CR 5759 FARMINGTON, NEW MEXICO. 87401 and THE WIGGINS FAMILY TRUST second party, whose address is #19 CR 5759, FARMINGTON, NEW MEXICO. 87401.

BEGINNING AT A POINT WHICH IS 1133.20 FEET SOUTH 2 DEGREES 52' WEST AND 180.22 FEET NORTH 89 DEGREES 58' EAST FROM THE NORTHWEST CORNER OF TRACT1 OF THE GOLDIE CHAPMAN TRACT AS FILED FOR RECORD IN THE OFFICE OF THE COUNTY CLERK ON THE 16th DAY OF MARCH, 1966

THENCE N 2 DEGREES 52'E 142.30 FEET;
THENCE N 89 DEGREES 58' E 149.78 FEET;
THENCE S 2 DEGREES 52' W 79.30 FEET;
THENCE N 89 DEGREES 58' E 5.82 FEET;
THENCE S 2 DEGREES 52' 63.0 FEET;
THENCE S 89 DEGREES 58' W 155.6 FEET TO THE POINT OF BEGINNING

SUBJECT TO ANY EASEMENTS OR RESERVATIONS OF RECORD OR IN EXISTANCE.

WITNESS OUR HANDS AND SEAL this 9th day of JUNE, 2004

Paul R. Wiggins
PAUL R. WIGGINS

Mary Christine Wiggins
MARY CHRISTINE WIGGINS

ACKNOWLEDGMENT FOR NATURAL PERSONS

STATE OF NEW MEXICO)

)ss

COUNTY OF SAN JUAN)

The foregoing instrument was acknowledged before me this 9th day of JUNE, 2004 by PAUL R. WIGGINS AND MARY CHRISTINE WIGGINS.

Bernadine E. Fitzgerald
Notary Public

my commission expires: 1-23-07

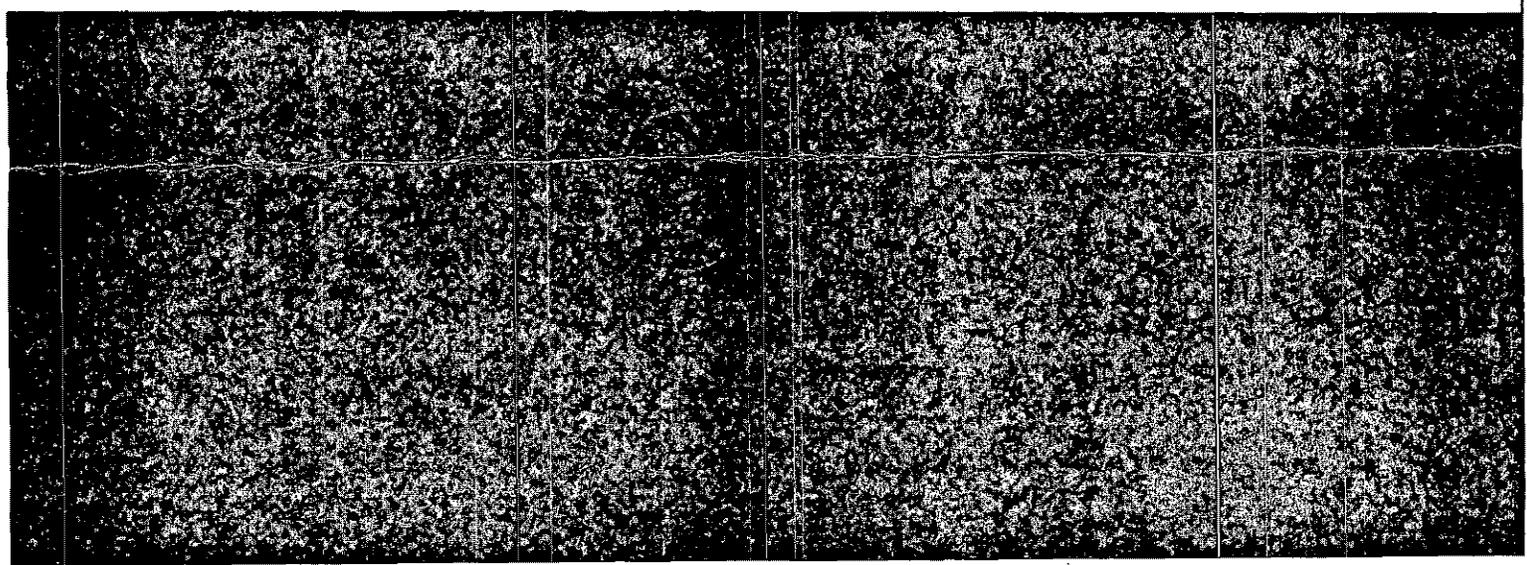


OFFICIAL SEAL
BERNADINE E. FITZGERALD
NOTARY PUBLIC - STATE OF NEW MEXICO
My commission expires: 1-23-07



200410219 06/10/2004 02:25P
1of1 B1389 P528 R 9.00 D 0.00
San Juan County, NM Clerk FRAN HANHARDT J.S.

Fred Moss 7u
Chapman



STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Larry Yows Owner's Well No. 1
Street or Post Office Address 17 rd. 5735
City and State Farmington, N.M. 87401

Well was drilled under Permit No. SJ-2299 and is located in the:

- a. SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 29 Township 29N Range 12W N.M.P.M.
- b. Tract No. _____ of Map No. _____ of the _____
- c. Lot No. 14-15-16 of Block No. 4 of the Wild Horse Valley
Subdivision, recorded in San Juan County.
- d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Univers Drilling Co. License No. WD-809

Address P.O. Box 603 Bloomfield, N.M. 87413

Drilling Began 3-20-91 Completed 9-29-91 Type tools _____ Size of hole 8 5/8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 27 ft.

Completed well is shallow artesian. Depth to water upon completion of well 7 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

| Depth in Feet | | Thickness in Feet | Description of Water-Bearing Formation | Estimated Yield (gallons per minute) |
|---------------|-----------|-------------------|--|--------------------------------------|
| From | To | | | |
| <u>10</u> | <u>22</u> | <u>4</u> | <u>Small river rocks and sand</u> | <u>3-4 gpm</u> |
| | | | | |
| | | | | |
| | | | | |

Section 3. RECORD OF CASING

| Diameter (inches) | Pounds per foot | Threads per in. | Depth in Feet | | Length (feet) | Type of Shoe | Perforations | |
|-------------------|-----------------|-----------------|---------------|-----------|---------------|-----------------|--------------|-----------|
| | | | Top | Bottom | | | From | To |
| <u>7"</u> | <u>42 lbs.</u> | <u>welded</u> | <u>0</u> | <u>27</u> | <u>27</u> | <u>Standard</u> | <u>18</u> | <u>22</u> |
| | | | | | | | | |
| | | | | | | | | |

Section 4. RECORD OF MUDDING AND CEMENTING

| Depth in Feet | | Hole Diameter | Sacks of Mud | Cubic Feet of Cement | Method of Placement |
|---------------|----|---------------|--------------|----------------------|---------------------|
| From | To | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

22 MAR 20 11:46

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____

State Engineer Representative

| No. | Depth in Feet | | Cubic Feet of Cement |
|----------|---------------|--------|----------------------|
| | Top | Bottom | |
| <u>1</u> | | | |
| <u>2</u> | | | |
| <u>3</u> | | | |
| <u>4</u> | | | |

FOR USE OF STATE ENGINEER ONLY

Date Received 3-20-92

Quad _____ FWL _____ FSL _____

File No. SJ-2299 Use Dom Location No. 29N.12W.29.113

This safety and health program is written for the employees of CHACO CHEMICAL COMPANY INC.

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SAFETY AND HEALTH MANUAL

Area Office, Farmington, New Mexico:

1. No electrical extension cords will be used in the office as permanent wiring.
2. No electric circuits will be overloaded.
3. All electrical equipment will be turned off and unplugged from the wall receptical before cleaning or repairing.
4. No chemical samples or glass containers will be stored except in cabinets with doors on them or rails around them.
5. All employees will know where the building fire extinguishers are located.
6. All employees will report accidents on and off the job.
7. All employees will report all illnesses.
8. All employees will drive safely.
9. All employees will wear seat belts in all company vehicles, and it is requested they do so in all personal vehicles.
10. A first aid kit will be kept up-to-date in the office.
11. All employees will know the emergency number for fire, police and medical services.
12. An escape route from this office will be drawn and posted on the door.
13. All employees will practice safety and good health on and off the job.

14. The supervisor in this office will conduct quarterly safety meetings.

15. The supervisor in the office will make routine inspections of the office to insure safe practices are in place.

16. CHEMICAL EMERGENCY RESPONSE numbers will be posted in all offices:

1-800-232-1616, Ext. 347 (In the USA)

SAFETY AND HEALTH MANUAL

Duties and Responsibilities of Sales Reps, Sales and Service Reps, Service Reps, Tech Service Chemist:

1. Attend a safety meeting at least once each quarter and provide a written record. (Sales and Sales and Service Reps that are supervisors: It is your responsibility to put on a quarterly safety meeting for your people.)
2. Drive in a safe and careful manner.
3. Wear seat belts in all company vehicles. It is also requested that you wear seat belts in all other vehicles.
4. Wear safety helmets and eye protection when needed.
5. Abide by all safety rules on all customers' properties.
6. Safety equipment in cars (fire extinguisher, first aid kit, hard hat, rubber gloves, snake bite kit, eye protection--goggles or glasses, and a portable eye wash kit) must be maintained in good shape.
7. Dispose of all samples and solvents in an EPA-accepted manner.
8. Maintain a clean car trunk to minimize fire hazards.
9. Put and use a valve on gasoline gun.
10. Maintain MSD sheets on all products sold and samples carried.
11. Use hard hats, eye protection and rubber gloves when catching samples.
12. Inspect automobiles for safety defects--tires, lights, windshield, etc.
13. Do not open or close valves on customers' leases without permission, and unless you are absolutely sure you know where the line leads to and what the results will be.
14. Be alert to the possibility of H₂S gas in the area at all times.

15. Practice safety on and off the job.

16. Know the local emergency numbers for fire, police and medical services.

17. Make sure any laboratories and mobile laboratories have a copy of the Sand Springs safety rules and practices.

18. The CHEMICAL EMERGENCY RESPONSE numbers will be posted in cars, trucks, offices and homes:

1-800-232-1616, Ext. 345 (In the USA)

1-918-493-4347 (Canada)

SAFETY AND HEALTH MANUAL

Duties and Responsibilities of Corrosion Technicians and Delivery Truck Drivers:

1. Attend a safety meeting at least once each quarter.
2. Drive in a safe and careful manner.
3. Wear seat belts in all company vehicles. It is also requested that seat belts be worn in all other vehicles.
4. Wear safety helmets, eye goggles, face mask and rubber gloves when treating wells.
5. Abide by all safety rules on customers' leases.
6. Safety equipment in trucks (fire extinguisher, first aid kit, hard hat, rubber gloves, snake bite kit, eye protection--goggles or face mask, and eye wash kit) must be maintained in good shape.
7. Dispose of all chemical and/or oil and brine spills in an EPA-accepted manner.
8. Maintain a clean truck to minimize fire hazards.
9. Maintain MSD sheets and bills of lading on all products carried on truck.
10. Maintain proper labeling on trucks.
11. Inspect trucks for safety defects daily--tires, lights, windshields, etc.
12. Be absolutely sure one knows where the valves on customers' leases lead before opening and closing.
13. Be alert to the possibility of H₂S gas at all times.
14. Use wheel chocks when treating wells.
15. Practice safety on and off the job.
16. Check all high pressure hoses twice a year.
17. Test high pressure relief valves twice a year.

18. Open high pressure valves very slowly.
19. Make sure all bulk storage tanks are diked and the dikes are maintained.
20. Know the local emergency numbers for fire, police and medical services.
21. Carry a clean change of clothes in truck in case of chemical spill on clothing.
22. Use proper equipment to handle drums.
23. Be sure static lines are connected during loading and unloading.
24. Inspect truck weekly, fill out required form and give to supervisor.
25. Inspect treater truck high pressure equipment twice, each year, fill out required form and give to supervisor.
26. All treater truck drivers will be provided a Chem-Link OFC Divison treater truck manual.
27. Have CHEMICAL EMERGENCY RESPONSE numbers in all trucks:

1-800-722-5660, Ext. 347 (Okla.)

1-800-232-1616, Ext. 347 (In the USA)

1-918-493-4347 (Canada)

SAFETY AND HEALTH MANUAL

Warehouses, Mid-Continent Region:

1. A spill prevention plan will hang in all warehouses.
2. Fire extinguishers will be available.
3. MSD sheets will be in each warehouse, or in the office closest to the warehouse.
4. Local authorities will be notified of each warehouse and an inspection requested.
5. Warehouses will be kept clean from trash and paper to reduce fire hazard.
6. Eye wash kit, first aid kit, eye protection and rubber gloves will be available.
7. Frequent checks will be made of all drums for leaks and swelling.
8. Local emergency numbers for fire, police and medical services will be posted.
9. Proper equipment will be used to handle drums.
10. CHEMICAL EMERGENCY RESPONSE numbers will be posted:

1-800-424-9300

215-353-8300

DEPARTMENT SAFETY MEETINGS

Each employee is required to attend a safety meeting each quarter. The safety meetings will be held for and by ChemLink personnel, or the employees may attend a safety meeting held by ARCO Oil and Gas Company.

It is every employee's responsibility to attend this meeting and give a written notice to his supervisor that he or she has attended.

EMERGENCY/DISASTER CONTROL PLAN

The emergency/disaster control plans are posted in all warehouses.

All personnel that have offices outside their homes will use the CHACO emergency control plan. If none exists, then an escape route will be drawn and posted on the office door. Employees that office in their homes will use the home escape plan that they provide for their families.

All employees will have the numbers of the local emergency authorities visible at their telephones.

All employees will have the CHEMICAL EMERGENCY RESPONSE numbers visible at their telephones.

The bulk tank disaster control plan is enclosed.

Date: January 2, 2009

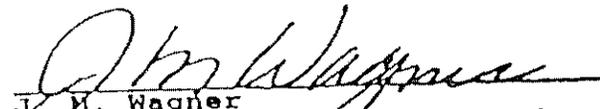
Subject: Spill Prevention Plan - Chemical Bulk Tanks

From/Location: A.T. ARCHULETA

To/Location: CHACO CHEMICAL EMPLOYEES

In case of a chemical spill or leak in your bulk storage tanks, you should put sand on the chemical to dry it up and then call a commercial company that is licensed to dispose of hazardous waste materials to pick up and dispose of the remains.

This plan should be kept in an office that is closest to the bulk tanks and readily accessible to all.


J. M. Wagner
Registered Professional Engineer

FIRE BRIGADE

Local authorities (fire department and police) have toured warehouse facilities and are aware that MSD sheets are available for the material being stored in these warehouses. Also, appropriate emergency telephone numbers were given to these authorities along with a copy of our emergency/disaster plan. Inspection of warehouses and a review of the emergency/disaster plan will be done annually.

It is the responsibility of all individuals in charge of warehouses to keep the warehouses in compliance and get the annual inspections.

A copy of the warehouse spill prevention plan is enclosed.

All personnel will receive proper training in the use of fire extinguishers.

The telephone numbers of the local authorities should be posted in the warehouses (fire, police).

Date

Subject

From/Location

To/Location

In case of a chemical leak or spill in your warehouse, you should put Absorb-all on the chemical to dry it up and then call a commercial company that is licensed to dispose of hazardous waste material to pick up and dispose of the remains. Should there be no commercial hazardous waste disposal available, the remains are to be shipped to Sand Springs for disposal.

MSD sheets are to be readily available in the warehouse on all products in the warehouse at all times.

This plan will hang in the warehouse in a place accessible to everyone.



J.M. Wagner
Registered Professional Engineer

HOUSEKEEPING

Good housekeeping policies to be used by all PERSONNEL:

1. Offices free of clutter, bottles and samples.
2. Automobiles free from any fire hazards.
3. Mobile labs free of fire hazards and equipment kept in place.
4. Treater trucks free of debris in the cabs and all safety equipment in place.
5. All warehouses kept free of litter and fire hazards.

HAZARD INSPECTIONS

Each supervisor in every area will be responsible for making a quarterly hazard inspection in his area of responsibility. Each supervisor will check all safety equipment (fire extinguishers, goggles, hard hats, gloves, first aid kits, and eye wash kits) monthly and make sure equipment is in good working order. A written report will be filed in the Farmington, N.M. OFFICE.

EMERGENCY EQUIPMENT INSPECTIONS

All fire extinguishers will be checked once each year by a qualified company. The other emergency equipment inspections are taken care of in other parts of the program.

OFF-THE-JOB SAFETY

Please practice safety at all times. Encourage your family and friends to practice safety.

SAFE WORK PRACTICES, JSA'S AND TJA'S

Hazardous Jobs - Service Representatives, Sales and Service Representatives, Sales Representatives, Technical Service Representatives, Account Representatives and Tech Service Chemists:

1. All employees will practice defensive driving at all times. Wearing of seat belts is mandatory.
2. All employees will abide by the safety regulations for mobile labs.
3. All employees will carry coveralls, eye goggles and rubber gloves to use when handling chemicals.
4. All employees will be schooled in the proper manner to handle all chemical, brine or oil spills.
5. All employees will use safe practices when they are performing routine lab tests, bottle tests, water analyses, etc.
6. All employees in the Rocky Mountain District and Canada will carry clothing and survival gear in case they are caught in a winter storm.
7. All employees will be extremely careful to watch for the presence of H_2S gas, and should know the alarm systems the production companies have in place.

PERSONAL PROTECTIVE EQUIPMENT USE

All personnel are required to carry and use:

- a. hard hats
- b. eye goggles or face shields
- c. rubber gloves
- d. eye wash kits
- e. first aid kits
- f. snake bite kits

The corrosion technicians are provided uniforms and are required to wear steel-toed shoes.

The service representatives, sales and service representatives, sales representatives, tech service representatives, tech sales representatives, tech account representatives and tech service chemists are provided coveralls, and should use surgical disposable gloves when running routine lab tests.

All safety equipment and clothing is approved for purchase and use by the OFC safety coordinator.

WALK-THROUGH AREA REVIEW

The walk-through area is covered in other parts of the safety program except:

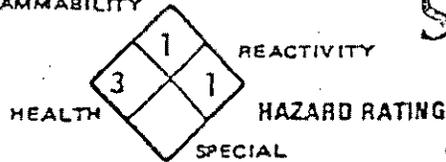
1. Bulk tanks--all bulk tanks are to be diked with dikes big enough to handle twice the volume in the tanks. The proper NFPA hazard signs will be put on the tanks and the solvent warning signs will be put on all tanks.
2. Keifer storage shed--a fire extinguisher will be mounted at the door, and a source of water will be maintained to wash eyes and skin in case of a spill.



EMERGENCY PHONE (203) 356-2345

Olin Corporation, 120 Long Ridge Road
Hamford, Conn. 06904

FLAMMABILITY



MATERIAL SAFETY DATA

C 236701

SECTION I - IDENTIFICATION

| | | |
|--|--|---|
| CHEMICAL NAME & SYNONYMS 35% Catalyzed Hydrazine Solution | | |
| CHEMICAL FAMILY | FORMULA N ₂ H ₄ .H ₂ O | TRADE NAME SCAV-OX ^(R) II |
| DESCRIPTION Clear colorless to pink liquid | | CAS NO. 302-01-2 |

SECTION II - NORMAL HANDLING PROCEDURES

| | |
|---|---|
| PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE Do not get in eyes, on skin, or on clothing. Do not take internally. Avoid breathing mist or vapors. Destroy any contaminated leather articles. Store in a well ventilated area away from oxidizing materials and acids. Avoid exposure to direct sunlight or high temperatures. | |
| CORROSIVE ACTION ON MATERIALS (Metals, Plastic, Rubber, Etc.) | |
| PROTECTIVE EQUIPMENT | VENTILATION REQUIREMENTS |
| Eyes: Goggles Gloves: Polyvinyl chloride or butyl rubber Other: Coveralls, boots, and PVC or butyl rubber apron. | As required to keep airborne concentrations of hydrazine below TLV. |

SECTION III - HAZARDOUS INGREDIENTS

| BASIC MATERIAL | APPROX. % | OSHA PEL | LD 50 | LC 50 | SIGNIFICANT EFFECTS |
|----------------|-----------|----------|-------------------------|---------------|---|
| Hydrazine | 35 | 1 ppm | 91 mg/kg dermal rabbits | 570 ppm/4 hrs | carcinogenic in laboratory animals rats |
| | | | | | |
| | | | | | |

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

| | | | | |
|---|--|----------------------------|-----------|-----------|
| FLASH POINT METHOD: None | OSHA CLASSIFICATION: Class IIIB Combustible liquid | FLAMMABLE/EXPLOSIVE LIMITS | LOWER: NA | UPPER: NA |
| EXTINGUISHING MEDIA: Water. Hydrazine solution concentrated by fire exposure can liberate hydrazine vapor (explosive limits hydrazine 4.7-100%). | | | | |
| SPECIAL FIRE HAZARD & FIRE FIGHTING PROCEDURES: Use NIOSH/MSHA approved self-contained breathing apparatus where this material is involved in a fire. | | | | |

SECTION V - HEALTH HAZARD DATA

| | |
|--|--|
| THRESHOLD LIMIT VALUE Hydrazine (skin) 0.1 ppm TWA 0.1 ppm STEL (ACGIH). | |
| SYMPTOMS OF OVER EXPOSURE: Dizziness, nausea, skin, eye and mucous membrane irritation, central nervous system stimulation, may cause temporary blindness. | |
| EMERGENCY FIRST-AID PROCEDURES | |
| SKIN | Wash thoroughly with water for 15 minutes. Call a physician. |
| EYES | Wash thoroughly with water for 15 minutes. Call a physician. |
| INGESTION | Drink water, induce vomiting by sticking finger down throat. Call a physician. |
| INHALATION | Remove victim to fresh air. Call a physician. |

2367

MATERIAL SAFETY DATA SHEET

(1)

METHANOL

MSDS
HCROC
Rev. 1



ARCO CHEMICAL COMPANY
DIVISION OF ATLANTIC RICHFIELD COMPANY
1500 MARKET STREET
P.O. BOX 7258
PHILADELPHIA, PENNSYLVANIA 19101

IMPORTANT: Read this MSDS handling and disposing of this product and pass this information on to employees, customers, and users of this product.
This product is covered by the OSHA Hazard Communication Rule and a document has been prepared in accordance with the MSDS requirements of

I. General

| | |
|---|--|
| Trade Name METHANOL | Telephone Numbers EMERGENCY 800/424-9300 CHEMTREK 215/353-8300 ARCO CHEMTRIK CUSTOMER SERVICE 800/321-7000 INFO ON |
| Other Names METHYL ALCOHOL, WOOD ALCOHOL | |
| Chemical Family ALIPHATIC ALCOHOL | DOT Hazardous Materials Proper Shipping Name METHYL ALCOHOL |
| Generic Name N/P | DOT Hazard Class FLAMMABLE LIQUID |
| CAS No. SEE SECTION IX | Company ID No. E000142300 |
| | UN/NA ID No. UN 1230 |

II. DANGER Summary of Hazards SEE SUPPLEMENT BEGINNING ON PAGE 7

| | |
|---|---|
| PHYSICAL HAZARDS: | EXTREMELY FLAMMABLE-MAY BURN WITH INVISIBLE FLAME |
| ACUTE HEALTH EFFECTS: (SHORT-TERM) | MODERATE INHALATION HAZARD MODERATE EYE IRRITANT MODERATE SKIN ABSORPTION HAZARD MODERATE INGESTION HAZARD. SEE SUPPLEMENT SLIGHT SKIN IRRITANT |
| CHRONIC HEALTH EFFECTS: (LONG-TERM) | SWALLOWING AS LITTLE AS ONE TO FOUR OUNCES OF METHANOL HAS BEEN REPORTED TO CAUSE DEATH OR SERIOUS IRREVERSIBLE INJURY SUCH AS BLINDNESS. SEE SUPPLEMENT |

III. Fire and Explosion

| | | |
|---|---|---|
| Flash Point (Method) AP 50° F (CC) | Autoignition Temperature (Method) AP 725° F | Flammable Limits (1% Vol. in Air) At Normal Atmospheric Temperature and Pressure Lower AP 6 Upper AP |
|---|---|---|

Fire and Explosion Hazards RELEASES FLAMMABLE VAPORS BELOW NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, CAN BURN IN OPEN OR EXPLODE IF CONFINED. MIXTURES WITH WATER AND AS LITTLE AS 21% (BY VOL) METHANOL ARE STILL FLAMMABLE (FLASH PT. <100 F). UNDER SOME CIRCUMSTANCES, MAY CORRODE CERTAIN METALS, INCLUDING ALUMINUM AND ZINC, AND GENERATE HYDROGEN GAS.

| | | |
|----------------------------|--|-------------------------|
| Extinguishing Media | DRY CHEMICAL CO2 FOAM FOR ALCOHOLS | WATERSPRAY WATER FOG |
|----------------------------|--|-------------------------|

Special Firefighting Procedures A METHANOL FIRE MAY NOT BE VISIBLE TO THE NAKED EYE. DO NOT ENTER FIRE AREA W/O PROPER PROTECTION. SEE SECTION X - DECOMPOSITION PRODUCTS POSSIBLE FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. APPLY AQUEOUS EXTINGUISHING MEDIA CAREFULLY TO AVOID FROTHING AND LIMIT EXPOSURE OF NEARBY EQUIPMENT. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

IV. Health Hazards

SEE SUPPLEMENT
BEGINNING ON PAGE 7

Summary of Acute Hazards MODERATE HEALTH HAZARD - SEE BELOW FOR ROUTE-SPECIFIC DETAILS.

| ROUTE OF EXPOSURE | SIGNS AND SYMPTOMS | Primary Route(s) |
|---|---|-------------------------------------|
| Inhalation | OVEREXPOSURE MAY CAUSE COUGHING, SHORTNESS OF BREATH, DIZZINESS, INTOXICATION AND COLLAPSE. | <input checked="" type="checkbox"/> |
| Eye Contact | MAY CAUSE MODERATE IRRITATION, INCLUDING BURNING SENSATION, TEARING, REDNESS OR SWELLING. | <input checked="" type="checkbox"/> |
| Skin Absorption | EXPOSURE TO THIS MATERIAL CAN RESULT IN ABSORPTION THROUGH SKIN CAUSING HEALTH HAZARD. | <input checked="" type="checkbox"/> |
| Skin Irritation | MAY PRODUCE SKIN IRRITATION. | <input type="checkbox"/> |
| Ingestion | SEE SUPPLEMENT | <input checked="" type="checkbox"/> |
| Summary of Chronic Hazards and Special Health Effects | SEE SUPPLEMENT | |

V. Protective Equipment and Other Control Measures

| | |
|-----------------------------------|---|
| Respiratory | DO NOT USE AIR-PURIFYING RESPIRATOR. ONLY NIOSH/MSHA APPROVED SUPPLIED AIR OR SELF-CONTAINED BREATHING APPARATUS OPERATED IN POSITIVE PRESSURE MODE ARE SATISFACTORY. |
| Eye | EYE PROTECTION SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE SHIELD MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING LIQUID, AIRBORNE PARTICLES, OR VAPOR. CONTACT LENSES SHOULD NOT BE WORN. |
| Skin | WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE. |
| Engineering Controls | GENERAL ROOM OR LOCAL EXHAUST VENTILATION IS USUALLY REQUIRED TO MEET EXPOSURE STANDARD(S). |
| Other Hygienic and Work Practices | EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE. USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE CONTAMINATED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING SOAP AND WATER. |

VI. Occupational Exposure Limits

| Substance | Source | Date | Type | Value/Units | Time |
|-----------------------|--------|------|------|-------------|--------|
| METHYL ALCOHOL - SKIN | ACGIH | 1984 | TWA | 200 PPM | 8 HRS |
| | | | STEL | 250 PPM | 15 MIN |
| | OSHA | 1971 | TWA | 200 PPM | 8 HRS |



METHANOL

MSDS
HCROC
Rev. C

XIV.

Supplement

ACUTE AND CHRONIC HEALTH EFFECTS

SWALLOWING AS LITTLE AS 1 TO 4 OUNCES OF METHANOL HAS BEEN REPORTED TO CAUSE DEATH OR SERIOUS IRREVERSIBLE INJURY SUCH AS BLINDNESS IN HUMANS. STUDIES IN EXPERIMENTAL ANIMALS INDICATE THAT THE METABOLISM OF METHANOL TO FORMIC ACID RESULTS IN METABOLIC ACIDOSIS AND REVERSIBLE OR IRREVERSIBLE DAMAGE TO THE OPTIC NERVE. SEE THE MEDICAL TREATMENT SECTION OF THIS DATA SHEET FOR INFORMATION ON TREATING METHANOL POISONING.

A RECENT ARTICLE HAS REPORTED EFFECTS OF EXPOSURE TO METHANOL VAPORS (AM. IND. HYG. ASSOC. J. 45(1 57-55, 1984). IN THIS REPORT TEACHERS AIDES EXPOSED TO METHANOL VAPORS (365-3080 PPM) IN DIRECT-PROCESS SPIRIT DUPLICATING OPERATIONS REPORTED SIGNIFICANTLY MORE OF THE FOLLOWING COMPLAINTS THAN A COMPARISON GROUP: BLURRED VISION, HEADACHE, DIZZINESS, AND NAUSEA.

SPECIAL HEALTH EFFECTS

INGESTION OF THIS PRODUCT, EVEN IN SMALL AMOUNTS, CAN CAUSE BLINDNESS AND DEATH. ONSET OF SYMPTOMS MAY BE DELAYED FOR 18-24 HOURS; TREATMENT PRIOR TO ONSET OF OBVIOUS SYMPTOMS MAY BE LIFE-SAVING. METHANOL IS RAPIDLY ABSORBED AND EMESIS SHOULD BE INITIATED EARLY TO BE EFFECTIVE. WITHIN 30 MINUTES OF INGESTION, IF POSSIBLE, ADMINISTER SYRUP OF IPECAC. AFTER THE DOSE IS GIVEN, ENCOURAGE PATIENT TO TAKE 6-8 OUNCES OF CLEAR NON-CARBONATED FLUID. DOSE MAY BE REPEATED ONCE IF EMESIS DOES NOT OCCUR WITHIN 20-30 MINUTES. ADMINISTRATION OF AN AQUEOUS SLURRY OF ACTIVATED CHARCOAL WITH MAGNESIUM CIRTATE OR SORBITOL AS A CATHARTIC HAS BEEN REPORTED HELPFUL.

ETHANOL INHIBITS THE FORMATION OF TOXIC METABOLITES. IF ETHANOL THERAPY IS INDICATED, ADMINISTER A LOADING DOSE OF 7.6-10 ML OF 10% ETOH IN D5W OVER 30-60 MINUTES. MAINTENANCE DOSE IS 1.4 ML/KG/HR OF 10% ETOH, TO ACHIEVE A 100-130 MG/DL BLOOD ETOH LEVEL DURING ETHANOL THERAPY. (IF CHARCOAL IS ADMINISTERED, ETHANOL SHOULD BE ADMINISTERED INTRAVENOUSLY AND NOT ORALLY.)

MAINTAIN CONTACT WITH POISON CONTROL CENTER DURING ALL ASPECTS OF DIAGNOSIS AND TREATMENT.

(2)

SECTION I - PRODUCT IDENTIFICATION

Manufacturer: JETCO CHEMICALS, INC. Information Phone: 903-872-3011
P. O. BOX 1898 Emergency Phone: 903-874-9500
HWY 31 EAST CHEMTREC Phone: 800-424-9300
CORSICANA TX 75151

Product Class: Demulsifier Hazard Ratings: Health - 1
Trade Name : JET BREAK 176 none -> extreme Fire - 2
Product Code : BRK176.2 0 ---> 4 Reactivity - 1
C.A.S. Number: Mixture Personal Protection - B
Shipping Name: FLAMMABLE LIQUID, N.O.S. (CONTAINS AROMATIC NAPHTHA AND
Shipping Name: ISOPROPYL ALCOHOL) UN1993

SECTION II - HAZARDOUS INGREDIENTS

Table with columns: Ingredients, CAS #, Weight %, Exposure Limits (ACGIH/TLV, OSHA/PEL), VP (mm HG). Row: ISOPROPYL ALCOHOL (IPA), 67-63-0, 1-5, 400 ppm, 400 ppm, 33.

ALL Ingredients in this product are listed in the T.S.C.A. Inventory.

* -> These items are listed on the SARA TITLE III Section 313 inventory

SECTION III - PHYSICAL DATA

Boiling Range: 149 Deg. F Vapor Density: Heavier than Air.
Evap. Rate: Slower than n-Butyl Acetate Liquid Density: Lighter than Water.
Volatiles volume: N/DA % Wgt per gallon: 7.76 Pounds.
Spec. Gravity: 0.93
Appearance: Light Amber Liquid
V.O.C.: N/DA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class: 1B Flash Point: 62 F LEL: N/DA
-EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, water spray, foam, or water fog.
-SPECIAL FIREFIGHTING PROCEDURES: Appropriate breathing apparatus should be worn when fighting fires. Decomposition products possible. Water may be ineffective in fighting fires due to low flash point. Heat may build pressure/rupture closed container, spreading fire. Use water spray/fog for cooling.
-UNUSUAL FIRE & EXPLOSION HAZARDS: Releases flammable vapors at normal ambient temperatures which can burn in open or explode if confined. Flammable vapors are heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Water dilution may not suffice to raise flash point.

=====
SECTION V - HEALTH HAZARD DATA
=====

-CHRONIC HEALTH EFFECTS:

No information available.

-EFFECTS OF OVEREXPOSURE:

INHALATION: May cause symptoms of depression, headache, dizziness, loss of appetite, weakness, lack of coordination, and severe irritation of mucous membranes and lungs. Concentrated exposure may also cause symptoms of lack of oxygen leading to collapse and possible death.

SKIN ABSORPTION: No significant signs or symptoms of skin absorption expected.

SKIN IRRITATION: May cause skin irritation, blistering, and/or dermatitis in some individuals.

INGESTION: May cause nausea, collapse, coma, and possible death.

EYE CONTACT: May cause severe eye irritation, burning, tearing, and redness.

CHRONIC HEALTH EFFECTS: No information available.

-FIRST AID:

INHALATION: Remove to fresh air. Give oxygen and artificial respiration as needed. Obtain medical attention promptly.

EYE CONTACT: Flush eyes with low-pressure water for at least 15 minutes and obtain medical attention immediately. Prompt action is essential.

SKIN CONTACT: Wash affected area with soap and water. Remove contaminated clothing, including shoes, and clean thoroughly before reuse. Seek medical attention if irritation persists.

INGESTION: If conscious, give at least two glasses of water. Do not induce vomiting. Obtain medical aid immediately.

=====
SECTION VI - REACTIVITY DATA
=====

STABILITY: [] Unstable [x] Stable

HAZARDOUS POLYMERIZATION: [] May occur [x] Will not occur

-INCOMPATIBILITY:

Avoid strong oxidizing agents.

-CONDITIONS TO AVOID:

Heat, sparks, open flame, and/or strong oxidants.

-HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon dioxide, carbon monoxide, and/or nitrogen oxides.

=====
SECTION VII - SPILL OR LEAK PROCEDURES
=====

-STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Flammable. Release can cause fire/explosion/
human health hazard/be toxic to aquatic life. Evacuate/limit
access. Notify fire and environmental authorities in the event
of large spills. Equip responders with proper protection. Stop
release, prevent flow to sewers/public waters. Eliminate all
ignition sources. Blanket with firefighting foam. Restrict
water use for clean-up. Impound/recover large land spills.
Soak up small spills with inert solids such as clay or
diatomaceous earth. Place in suitable disposal containers.
Report per regulatory requirements.

(cont.)

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SECTION VII - SPILL OR LEAK PROCEDURES (cont.)

-STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: (cont.)

-WASTE DISPOSAL METHOD:

Contaminated soil/water/product may be RCRA/OSHA hazardous waste due to potentially low flash point. Landfill at permitted sites. Use registered transporters. Incinerate concentrated liquids in systems compatible with liquid wastes where permitted under federal, state and local regulations. Consult waste disposal authorities.

-SPILL REPORTABLE QUANTITY:

=====

SECTION VIII - SPECIAL PROTECTION INFORMATION

-RESPIRATORY PROTECTION:

At general use temperatures, an organic vapor cartridge respirator should be suitable. If exposure may exceed established standards, use of NIOSH/MSHA approved respiratory equipment operated in compliance with the OSHA Standard for Respiratory Protection (29 CFR 1910.134) is required.

-VENTILATION:

Local exhaust ventilation may be required to meet exposure standards in addition to good room ventilation.

-PROTECTIVE GLOVES:

Impervious protective gloves, boots, and head protection should be worn. Equipment should be cleaned thoroughly after each use.

-EYE PROTECTION:

Eye protection, including both chemical splash goggles and face shield, must be worn when splashing, spraying, or other eye contact is possible.

-OTHER PROTECTIVE EQUIPMENT:

Emergency eyewash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, smoking, or using toilet facilities. Promptly remove soiled clothing; washing thoroughly before reuse. Shower after work using plenty of soap and water.

=====

SECTION IX - SPECIAL PRECAUTIONS

-PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Store in tightly sealed drums or in properly ventilated tanks away from heat, sparks, open flames, and strong oxidants. Use only non-sparking tools. Store drums with bung in up position. Carefully vent internal pressure before beginning transfer. Electrical equipment should conform to national electric code. Handle empty containers with care; vapor residue may be flammable. Vapor space above liquid may be flammable unless blanketed with inert gas.

=====

SECTION IX - SPECIAL PRECAUTIONS (cont.)

-OTHER PRECAUTIONS:

Equipment exposed to this material should be thoroughly drained,
water-washed, and purged prior to maintenance operations.

=====

SECTION X - DISCLAIMER

-DISCLAIMER:

The submission of this MSDS may be required by law, but this is
not an assertion that the substance is hazardous when used in
accordance with proper safety practices and normal handling
procedures. Data supplied is for use only in connection with
occupational safety and health.

This MSDS has been prepared in accordance with the requirements
of the OSHA Hazard Communication Standard (29 CFR 1200).

ARCO Chemical Company requests Customer to study this Data Sheet and become aware of Product hazards. To promote safe handling Customer should (1) notify its employees, agents and contractors of the information on this Data Sheet, and (2) furnish a copy of this Data Sheet to each of its customers for the Product and request such customers to notify their employees and customers for the Product of the information on this Data Sheet and a Product hazards and safety information.

| | | | |
|--|--|---|--|
| Section I - General | | Manufacturer's name ARCO CHEMICAL COMPANY | Material name ArcoTreat TBC-100 |
| Manufacturer's address 9100 W. 21st. Street Sand Springs, OK 74063 | | Emergency telephone (24 hour) 918-745-1029 | |
| Name (brand-trade) and synonyms N/A | | Chemical family Emulsion Breaker | |
| Section II - Summary of hazardous information | | Summary | |
| TLV 300 ppm (Estimated) | | DANGER: EXTREMELY FLAMMABLE - Keep away from heat, sparks, and open flame. CAUTION: MODERATE SKIN, EYE, AND INHALATION HAZARD - Avoid prolonged or repeated skin contact. Avoid breathing vapors. Avoid eye contact. | |
| Section III - Physical and reactivity data | | Boiling point (°F) 150°F | Evaporation rate (ratio of time) (Ether = 1) >1 |
| Vapor pressure (mm Hg at 70 ° F) 48.9 (Calc.) | | Other N/A | |
| Vapor density (air = 1 at 60-99° F) 2.3 (Calc.) | | Incompatibility (materials to avoid) Strong acids, alkalies, and strong oxidizers such as liquid chlorine and oxygen. | |
| Specific gravity (H ₂ O = 1 at 39.2° F) 0.902 | | Stability Conditions to avoid (X) Stable () Unstable Heat, open flame, and sparks | |
| Volatile characteristics Appreciable | | Hazardous polymerization may occur () Occur (X) Not occur Brown liquid; alcohol odor | |
| Solubility in water Appreciable | | Hazardous decomposition products Incomplete combustion may produce carbon monoxide and oxides of sulfur. | |
| Section IV - Fire and explosion data | | Flash point (°F) 62°F (method used) (D-56) | Flammable limits at normal atmos. temp. and pressure (% by volume in air) Lower flammable limit 2 Upper flammable limit 36.5 |
| Autoignition temp. (° F) 750°F (Approx.) | | Extinguishing media Carbon dioxide, dry chemical, or alcohol type foam | |
| Special fire fighting procedures For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of the normal products of combustion or oxygen deficiencies. | | | |
| Unusual fire and explosion hazards EXTREMELY FLAMMABLE. This material releases flammable vapors at normal atmospheric temperatures and pressures; vapors when mixed in certain proportions with air (see Flammable Limits) can burn or be explosive in confined spaces if exposed to a source of ignition. | | | |
| Section V - First aid and emergency procedures | | Note to physician If swallowed, induce vomiting. | |
| Eye contact | | - Flush eyes with plenty of low pressure water. | |
| Skin contact | | - Immediately wash skin with soap and water. Remove contaminated clothing and thoroughly clean before reuse. | |
| Inhalation | | - Immediately remove from contaminated area for fresh air. | |
| Ingestion | | - Induce vomiting by sticking finger down throat. Immediately obtain medical attention. | |

**Section VI -
Health hazard data**

Primary hazard

Inhalation of vapors of this material may result in toxic effects.

| Route of exposure | Affected | Signs and symptoms |
|-------------------|----------|--|
| Eye contact | X | This material may cause eye irritation upon direct contact. |
| Skin irritation | X | This material may cause skin irritation upon direct contact. |
| Inhalation | X | Prolonged exposure to excess vapor concentrations of this material may cause signs and symptoms of central nervous system depression such as headache, dizziness, loss of appetite, weakness and loss of coordination. |
| Ingestion | X | |
| Skin absorption | | Ingestion in large quantities will cause poisoning. |

Effects of overexposure

Ingestion or inhalation of large quantities of vapor may cause headache, fatigue, nausea, visual impairment or complete blindness and respiratory failure.

**Section VII -
Spill or leak procedure**

Precautions if material is spilled or released

Eliminate all sources of ignition in vicinity of the spill or released vapor.

Waste disposal methods

Soak up spill with sand or earth and shovel into container. Dispose of in approved dump site or incinerator. The contaminated area should be flushed with water being certain not to contaminate storm drain or water supplies.

**Section VIII - Special
protection information**

Ventilation

Use only in well ventilated area.

Eye protection

Eye protection, such as chemical type goggles or face mask, should be worn whenever splashing, spraying, or other eye contact is likely.

Skin protection

Avoid prolonged or repeated skin contact, and use good personal hygiene.

Respiratory protection

When exposure above the established standard is likely, a respiratory protection program which complies with OSHA General Industry Standard 1910.134 (e) and respiratory equipment approved by NIOSH/MESA should be implemented.

Other protection

N/A

**Section IX -
Handling and storage****EXTREMELY FLAMMABLE.** Keep container closed when not in use. Store away from heat, open flame, or direct sunlight. Keep out of reach of children. Containers should be decontaminated and all residual contents removed before disposal.

General comments

All electrical equipment in areas where material is stored and/or handled should be installed in accordance with applicable requirements of the National Electric Code, N.F.P.A.

Date issued

Reviewed March, 1981

Disclaimer of Liability

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

ARCO Chemical Company requests Customer to study this Data Sheet and become aware of Product hazards. To promote safe handling Customer should (1) notify its employees, agents and contractors of the information on this Data Sheet, and (2) furnish a copy of this Data Sheet to each of its customers for the Product and request such customers to notify their employees and customers for the Product of the information on this Data Sheet and of Product hazards and safety information.

Section X - Supplement

FOR PRODUCTS CONTAINING HIGH BOILING AROMATIC HYDROCARBONS

Information given below should be used in conjunction with that provided in the MSDS to which it is attached.

Reference: Page 1

WARNING: MAY BE HARMFUL TO SKIN. Avoid skin contact. Avoid breathing mists or vapor. This product contains high boiling aromatic hydrocarbons of a type which have produced skin tumors in experimental animals. Prolonged or repeated skin contact may cause irritation or more serious skin disorders. (See Section VI, Health Hazard Data on Page 2.)

Section V - First Aid and Emergency Procedure:

- Eye Contact: Flush with copious amounts of low-pressure water.
- Skin Contact: Promptly wash the contaminated skin with soap or mild detergent and water. Remove contaminated clothes and launder before reuse.
- Inhalation: Immediately remove from contaminated area to fresh air.
- Ingestion: If swallowed, DO NOT induce vomiting. Get medical attention immediately.

Reference: Page 2

Section VI - Health Hazard Data:

- Primary Hazard: Prolonged or repeated skin contact may cause irritation or more serious skin disorders.
- Skin Irritation: Skin irritation leading to dermatitis or more serious skin disorders may occur on prolonged or repeated skin contact.
- Effect of Over-exposure: Experiments have shown that solvents of the type contained in this product have caused tumors on the skin or experimental animals. This solvent contains high boiling aromatic hydrocarbons and some such aromatic hydrocarbons have been suspected as a cause of skin cancer in humans under condition of poor personal hygiene and prolonged or repeated contact.

Date issued

September, 1980

Disclaimer of Liability

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

Section X - Supplement

Reference: Page 2 (continued)

Section VII - Precautions if material is spilled or released:

For small spills, sue sand, earth, sawdust and place in appropriate container. For large spills, dike or impound. Immediately notify U. S. Coast Guard National Response Center (800-424-8802) of any spill that could reach waterways, including intermittent dry creeks and wetlands.

Waste Disposal Methods:

Use approved waste disposal contractor or dispose by controlled incineration in compliance with Federal, State, or local regulations.

Section VIII - Special Protection Information

- Ventilation: Special ventilation may be required for conditions of handling at elevated temperatures.
- Eye Protection: Eye protection is recommended under normal conditions of use.
- Skin Protection: If skin contact is likely during the handling of this material, appropriate impervious clothing, gloves, and/or boots must be worn and appropriate facial protection utilized.
- Respiratory Protection: Respiratory protection approved by NIOSH/MESA should be worn where excessive vapor or mist are produced by product usage.

Date issued
September, 1980
Page ____ of ____

24 4

SECTION I - PRODUCT IDENTIFICATION

Manufacturer: JETCO CHEMICALS, INC. Information Phone: 903-872-3011
 P. O. BOX 1898 Emergency Phone: 903-874-9500
 HWY 31 EAST CHEMTREC Phone: 800-424-9300
 CORSICANA TX 75151

Product Class: Foaming Agent
 Trade Name : JET FOAM S-255
 Product Code : FOAMS255.2
 C.A.S. Number: Mixture
 Shipping Name: FLAMMABLE LIQUID, N.O.S. (CONTAINS METHANOL) UN1993

Hazard Ratings: Health - 2
 none -> extreme Fire - 1
 0 ----> 4 Reactivity - 0
 Personal Protection - B

SECTION II - HAZARDOUS INGREDIENTS

| Ingredients | CAS # | Weight % | Exposure Limits | | VP mm.HG |
|------------------------|------------|----------|-----------------|----------|----------|
| | | | ACGIH/TLV | OSHA/PEL | |
| *METHANOL | 67-56-1 | 20-50 | 200 ppm | 200 ppm | 96 |
| *1-T-BUTOXY-2-PROPANOL | 57018-52-7 | 5-20 | ppm | 250 | 4.8 |

ALL Ingredients in this product are listed in the T.S.C.A. Inventory.

* -> These items are listed on the SARA TITLE III Section 313 inventory

SECTION III - PHYSICAL DATA

Boiling Range: 149 Deg. F Vapor Density: Heavier than Air.
 Evap. Rate: Slower than n-Butyl Acetate Liquid Density: Lighter than Water.
 Volatiles volume: N/DA % Wgt per gallon: 8.198 Pounds.
 Spec. Gravity: 0.98

Appearance: Light Yellow Liquid
 V.O.C.: N/DA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class: 1C Flash Point: 76 F LEL: N/DA

-EXTINGUISHING MEDIA:
 Dry chemical, carbon dioxide, water spray, foam, or water fog.

-SPECIAL FIREFIGHTING PROCEDURES:
 Appropriate breathing apparatus should be worn when fighting fires. Decomposition products possible. Water may be ineffective in fighting fires due to low flash point. Heat may build pressure/rupture closed container, spreading fire. Use water spray/fog for cooling.

-UNUSUAL FIRE & EXPLOSION HAZARDS:
 Releases flammable vapors at normal ambient temperatures which can burn in open or explode if confined. Flammable vapors are heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Water dilution may not suffice to raise flash point.

SECTION V - HEALTH HAZARD DATA

-CHRONIC HEALTH EFFECTS:

No information available.

-EFFECTS OF OVEREXPOSURE:

INHALATION: May cause symptoms of depression, headache, dizziness, loss of appetite, weakness, lack of coordination, and severe irritation of mucous membranes and lungs. Concentrated exposure may also cause symptoms of lack of oxygen leading to collapse and possible death.

SKIN ABSORPTION: No significant signs or symptoms of skin absorption expected.

SKIN IRRITATION: May cause skin irritation, blistering, and/or dermatitis in some individuals.

INGESTION: May cause nausea, collapse, coma, and possible death.

EYE CONTACT: May cause severe eye irritation, burning, tearing, and redness.

CHRONIC HEALTH EFFECTS: No information available.

-FIRST AID:

INHALATION: Remove to fresh air. Give oxygen and artificial respiration as needed. Obtain medical attention promptly.

EYE CONTACT: Flush eyes with low-pressure water for at least 15 minutes and obtain medical attention immediately. Prompt action is essential.

SKIN CONTACT: Wash affected area with soap and water. Remove contaminated clothing, including shoes, and clean thoroughly before reuse. Seek medical attention if irritation persists.

INGESTION: If conscious, give at least two glasses of water. Induce vomiting. Obtain medical aid immediately.

SECTION VI - REACTIVITY DATA

STABILITY: [] Unstable [x] Stable

HAZARDOUS POLYMERIZATION: [] May occur [x] Will not occur

-INCOMPATIBILITY:

Avoid strong oxidizing agents.

-CONDITIONS TO AVOID:

Heat, sparks, open flame, and/or strong oxidants.

-HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon dioxide, carbon monoxide, and/or nitrogen oxides.

SECTION VII - SPILL OR LEAK PROCEDURES

-STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Flammable. Release can cause fire/explosion/
human health hazard/be toxic to aquatic life. Evacuate/limit
access. Notify fire and environmental authorities in the event
of large spills. Equip responders with proper protection. Stop
release, prevent flow to sewers/public waters. Eliminate all
ignition sources. Blanket with firefighting foam. Restrict
water use for clean-up. Impound/recover large land spills.
Soak up small spills with inert solids such as clay or
(cont.)

SECTION VII - SPILL OR LEAK PROCEDURES (cont.)

- STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: (cont.)
diatomaceous earth. Place in suitable disposal containers.
Report per regulatory requirements.
- WASTE DISPOSAL METHOD:
Contaminated soil/water/product may be RCRA/OSHA hazardous waste due to potentially low flash point. Landfill at permitted sites. Use registered transporters. Incinerate concentrated liquids in systems compatible with liquid wastes where permitted under federal, state and local regulations. Consult waste disposal authorities.
- SPILL REPORTABLE QUANTITY:

SECTION VIII - SPECIAL PROTECTION INFORMATION

- RESPIRATORY PROTECTION:
At general use temperatures, an organic vapor cartridge respirator should be suitable. If exposure may exceed established standards, use of NIOSH/MSHA approved respiratory equipment operated in compliance with the OSHA Standard for Respiratory Protection (29 CFR 1910.134) is required.
- VENTILATION:
Local exhaust ventilation may be required to meet exposure standards in addition to good room ventilation.
- PROTECTIVE GLOVES:
Impervious protective gloves, boots, and head protection should be worn. Equipment should be cleaned thoroughly after each use.
- EYE PROTECTION:
Eye protection, including both chemical splash goggles and face shield, must be worn when splashing, spraying, or other eye contact is possible.
- OTHER PROTECTIVE EQUIPMENT:
Emergency eyewash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, smoking, or using toilet facilities. Promptly remove soiled clothing; washing thoroughly before reuse. Shower after work using plenty of soap and water.

SECTION IX - SPECIAL PRECAUTIONS

- PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Store in tightly sealed drums or in properly ventilated tanks away from heat, sparks, open flames, and strong oxidants. Use only non-sparking tools. Store drums with bung in up position. Carefully vent internal pressure before beginning transfer. Electrical equipment should conform to national electric code. Handle empty containers with care; vapor residue may be flammable. Vapor space above liquid may be flammable unless blanketed with inert gas.

=====

SECTION IX - SPECIAL PRECAUTIONS (cont.)

-OTHER PRECAUTIONS:

Equipment exposed to this material should be thoroughly drained, water-washed, and purged prior to maintenance operations.

=====

SECTION X - DISCLAIMER

-DISCLAIMER:

The submission of this MSDS may be required by law, but this is not an assertion that the substance is hazardous when used in accordance with proper safety practices and normal handling procedures. Data supplied is for use only in connection with occupational safety and health.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

Revised 01-28-1997

OF C(R), WT-675 WATER TREATING COMPOUND
 MSDS ID: 6-005492

1 - GENERAL INFORMATION

CHEMLINK PETROLEUM
 9100 W. 21ST STREET
 SAND SPRINGS, OK 74063

800/424-9300 ChemTrec
 800/232-1616 Emergency
 800/722-5660 In Oklahoma
 918/493-4347 Out Cont. US

GENERIC NAME

DOT PROPER SHIPPING NAME: FLAMMABLE LIQUID N.O.S.
 UN/NA NUMBER: UN 1993

DOT HAZARD CLASS: FLAMMABLE LIQUID

NFPA CLASSIFICATION: HEALTH (2) FLAMMABILITY (4) REACTIVITY (0)
 SPECIFIC HAZARD (N/A)

DOT/CERCLA RQ: 18,200 LBS (METHANOL)

2 - SUMMARY OF HAZARDS

DANGER

PHYSICAL HAZARDS: EXTREMELY FLAMMABLE LIQUID; CORROSIVE TO METALS

ACUTE HEALTH EFFECTS: (SHORT-TERM) CORROSIVE TO EYES
 CORROSIVE TO SKIN
 NO DATA FOUND; SUSPECT INGESTION HAZARD
 NO DATA ON SKIN ABSORPTION FOUND
 NO DATA ON INHALATION FOUND

CHRONIC HEALTH EFFECTS: (LONG-TERM) INGESTION OF THIS MATERIAL, WHICH CONTAINS
 METHANOL, CAN CAUSE SERIOUS METABOLIC ACIDOSIS
 AND MAY LEAD TO OPTIC NERVE DAMAGE. SEE
 SUPPLEMENT.

3 - COMPONENTS

| COMPONENT NAME | CAS NUMBER | % COMPOSITION BY (WT.) |
|-----------------------|------------|------------------------|
| *METHANOL | 67-56-1 | < 32 |
| WATER | 7732-18-5 | |
| TRADE SECRET 5492-01# | | |
| TRADE SECRET 5492-02# | | |
| TRADE SECRET 5492-03# | | |
| ISOPROPYL ALCOHOL | 67-63-0 | |

* THIS IS A SARA SECTION 313 LISTED CHEMICAL

4 - PHYSICAL AND CHEMICAL DATA

| | |
|-----------------------------------|--------------------------|
| BOILING POINT | PK |
| AP 149F | AP 10.0 TO 12.0 |
| FREEZING POINT | DRY POINT |
| N/DA | N/DA |
| SPECIFIC GRAVITY (H2O=1 AT 39.2F) | VOLATILE CHARACTERISTICS |
| AP .92 | APPRECIABLE |

UFC(R) WT-675 WATER TREATING COMPOUND
 MSDS ID: 6-005492

4 - PHYSICAL AND CHEMICAL DATA (continued)

VISCOSITY UNITS, TEMP. (BROOK)
 2000 16F

VAPOR PRESSURE
 AP 44.3 MM HG AT 70F

VAPOR SP GR (AIR=1 AT 60 - 90F)
 AP .9

APPEARANCE AND ODOR
 AMBER LIQUID; ALCOHOL ODOR

CONDITIONS AND MATERIALS TO AVOID
 HEAT, OPEN FLAME AND ELEVATED PRESSURE. DO NOT USE MILD STEEL, ALUMINUM, OR BRASS FOR TRANSPORTATION, HANDLING, OR STORAGE.

STRONG OXIDIZING AGENTS
 HAZARDOUS DECOMPOSITION PRODUCTS
 WHEN HEATED TO DECOMPOSITION, MAY EMIT CARBON MONOXIDE, CARBON DIOXIDE, FORMALDEHYDE, AND COMPOUNDS OF NITROGEN.

SOLUBILITY IN WATER
 COMPLETE

STABILITY
 STABLE

HAZARDOUS POLYMERIZATION
 NOT EXPECTED TO OCCUR

5 - OCCUPATIONAL EXPOSURE LIMITS

| SUBSTANCE | SOURCE | DATE | TYPE | VALUE | TIME |
|---------------------|--------|------|------|---------|--------|
| ISOPROPYL ALCOHOL | ACGIH | 1985 | TLV | 400 PPM | 8 HRS |
| | | | STEL | 500 PPM | 15 MIN |
| | OSHA | 1971 | PEL | 400 PPM | 8 HRS |
| METHYL ALCOHOL-SKIN | ACGIH | 1985 | TLV | 200 PPM | 8 HRS |
| | | | STEL | 250 PPM | 15 MIN |
| METHYL ALCOHOL | OSHA | 1971 | PEL | 200 PPM | 8 HRS |

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(TCC)
 AP 62F

AUTOIGNITION TEMP. METHOD=
 878F

FLAMMABLE LIMITS (% VOLUME IN AIR)
 AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE
 LOWER: 6.0 UPPER: 36.5

FIRE AND EXPLOSION HAZARDS
 RELEASES FLAMMABLE VAPORS BELOW NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. FLAMMABLE VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE.

EXTINGUISHING MEDIA
 DRY CHEMICAL
 CO2
 WATER SPRAY
 ALCOHOL
 WATER FOG

SPECIAL FIREFIGHTING PROCEDURES
 DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. WATER MAY BE INEFFECTIVE IN FIREFIGHTING DUE TO LOW FLASH POINT. USE WATER SPRAY/FOG FOR COOLING. EVEN IF MATERIAL IS WATER SOLUBLE, MAY NOT BE PRACTICAL TO EXTINGUISH FIRE BY WATER DILUTION. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

OFC(R) WT-675 WATER TREATING COMPOUND
MSDS ID: 6-005492

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION -- PRIMARY ROUTE

NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA IS KNOWN TO EXIST.

EYE CONTACT -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE EYE IRRITATION.

SKIN ABSORPTION

NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST.

SKIN IRRITATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SKIN IRRITANT.

INGESTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INGESTION HAZARD.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

THIS MATERIAL OR ITS EMISSIONS MAY AFFECT THE CENTRAL NERVOUS SYSTEM AND/OR AGGRAVATE PRE-EXISTING DISORDERS. PROLONGED OBSERVATION MAY BE INDICATED.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED AIR-PURIFYING OR SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE.

EYE PROTECTION

EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.

SKIN PROTECTION

WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

EITHER LOCAL EXHAUST OR GENERAL ROOM VENTILATION IS USUALLY REQUIRED.

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER FLUSH W/LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATERLESS CLEANER FIRST. SEEK MEDICAL ATTENTION IF ILL EFFECT OR IRRITATION DEVELOPS.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. INDUCE VOMITING. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EMERGENCY MEDICAL TREATMENT PROCEDURES

METHANOL INGESTION IS LIFE-THREATENING. INDUCE VOMITING WITH SYRUP OF IPECAC. FOLLOW EMESIS WITH MODERATE AMOUNTS OF WATER ORALLY. SYMPTOM ONSET MAY BE DELAYED. ETHANOL THERAPY MAY BE INDICATED.

OFC(R), WT-675 WATER TREATING COMPOUND
 MSDS ID: 6-005492

11 - LABEL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED
 EXTREMELY FLAMMABLE LIQUID. RELEASE CAUSES IMMEDIATE FIRE/EXPLOSION HAZARD. EXTINGUISH ALL IGNITION SOURCES. IMPOUND/RECOVER LARGE LAND SPILLS; SOAK UP SMALL SPILL. ON WATER, MAY BIODEGRADE. CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.
 WASTE DISPOSAL METHODS
 CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIALLY LOW FLASH POINT (SEE 40 CFR 261 AND 29 CFR 1910). WASTE MAY BE DESIGNATED D001 UNDER RCRA LISTING DUE TO PRESENCE OF ISOPROPYL ALCOHOL. LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES
 STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, SPARKS, OPEN FLAME, STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORE DRUMS WITH BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. CONTAINERS MUST BE GROUNDED BEFORE BEGINNING TRANSFER. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. HANDLE "EMPTY" CONTAINERS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE. VAPOR SPACE ABOVE LIQUID MAY BE FLAMMABLE/EXPLOSIVE UNLESS BLANKETED WITH INERT GAS.
 DECONTAMINATION PROCEDURES
 EQUIPMENT CONTAINING THIS MATERIAL SHOULD BE ISOLATED AND THOROUGHLY DRAINED, WASHED AND PURGED PRIOR TO MAINTENANCE/REPAIR OPERATIONS. WEAR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT.

12 - LABEL INFORMATION

USE STATEMENT
 FOR INDUSTRIAL USE ONLY
 KEEP OUT OF REACH OF CHILDREN
 SIGNAL WORD
 DANGER
 PHYSICAL HAZARDS
 EXTREMELY FLAMMABLE
 CORROSIVE TO METALS
 HEALTH HAZARDS
 SEVERE EYE IRRITANT
 SKIN IRRITANT
 INGESTION HAZARD
 MAY CAUSE LONG-TERM ADVERSE HEALTH EFFECTS
 PRECAUTIONARY MEASURES
 DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.
 SPILL/LEAK CAN CAUSE FIRE/EXPLOSION.
 DO NOT STORE IN ALUMINUM/COPPER/BRASS/MILD STEEL.
 DO NOT GET IN EYES.
 AVOID CONTACT WITH SKIN.
 DO NOT BREATHE VAPOR.
 USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.
 DO NOT TAKE INTERNALLY.
 PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.
 WASH THOROUGHLY AFTER HANDLING.

13 - SUPPLEMENT

CHRONIC HEALTH HAZARDS-SECTION 2 AND 7
 ONE OF THE COMPONENTS OF THIS PRODUCT (ISOPROPYL ALCOHOL) HAS BEEN REPORTED IN ONE STUDY TO BE FETOTOXIC AT LEVELS OF 2.5% IN DRINKING WATER. NO TERATOGENIC EFFECTS WERE, OR HAVE BEEN, REPORTED. THERE ARE NO

OFC(R) WT-675 WATER TREATING COMPOUND
MSDS ID: 6-005492

13 - SUPPLEMENT (continued)

REPORTS OF ADVERSE REPRODUCTIVE EFFECTS IN HUMANS EXPOSED TO THIS CHEMICAL.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

| | |
|--------------------------|---------------------------------------|
| EQ = EQUAL | AP = APPROXIMATELY |
| LT = LESS THAN | GT = GREATER THAN |
| TR = TRACE | UK = UNKNOWN |
| N/AP = NOT APPLICABLE | N/P = NO APPLICABLE INFORMATION FOUND |
| N/OA = NO DATA AVAILABLE | |

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

JETCO CHEMICALS

6

MATERIAL SAFETY DATA SHEET

JET COTE 553

1. GENERAL INFORMATION

JETCO CHEMICALS, INC.
P.O. BOX 1898
CORNICANA, TX. 75151

EMERGENCY NUMBER : 214-874-9500
CHEMTREC NUMBER: 800-424-9300
FOR OTHER INFO. CALL: 214-872-3011

TRADE NAME: JET COTE 553

GENERIC NAME: SCALE INHIBITOR

D. O. T. REQUIREMENTS:

NOT REGULATED

SHIPPING NAME: JET COTE 553

2. SUMMARY OF HAZARDS

PHYSICAL HAZARDS:

ACUTE HEALTH EFFECT:

ANGERI
CAUTIONI
CAUTIONI
CAUTIONI

EXTREME INGESTION HAZARD
MODERATE EYE IRRITANT
MODERATE INHALATION HAZARD
MODERATE SKIN IRRITANT

CHRONIC HEALTH EFFECT:

NO INFORMATION AVAILABLE.

3. COMPONENTS & EXPOSURE LIMITS

| COMPONENT NAME | % COMPONENT | CAS NUMBER | SOURCE | VALUE/UNITS | TYPE | DATE | TIME |
|-----------------|-------------|------------|--------|-------------|------|------|-------|
| ETHYLENE GLYCOL | 20 - 30 | 107-21-1 | ACGIH | 50 ppm | TLV | 1987 | 8 HRS |

4. PHYSICAL & CHEMICAL DATA

| | | | | | |
|-----------------|---------------------------|-------------------|----------------------------------|--------------------------|-------------|
| ODOR: | MUSTY | VAPOR DENSITY: | GT 1 (AIR = 1.0) | SOLUBILITY IN WATER : | COMPLETE |
| APPEARANCE: | CLEAR LIGHT YELLOW LIQUID | SPECIFIC GRAVITY: | 1.189 @ 15/15 C (WATER = 1.0) | REACTIVITY IN WATER : | NONREACTIVE |
| BOILING POINT: | AP 212 F | | | | |
| VAPOR PRESSURE: | N/DA | | | | |

5. REACTIVITY DATA

| | | | |
|-----------------------------------|---|----------------------|-------------------------|
| STABILITY: | STABLE | MATERIALS TO AVOID: | STRONG OXIDIZING AGENTS |
| HAZARDOUS POLYMERIZATION: | NOT EXPECTED | CONDITIONS TO AVOID: | NONE EXPECTED |
| HAZARDOUS DECOMPOSITION PRODUCTS: | CARBON MONOXIDE, CARBON DIOXIDE, OXIDES OF NITROGEN | | |

6. FIRE AND EXPLOSION DATA

| | | | | |
|----------------------|--|--|--------|------|
| FLASH POINT: | ABOVE 200 F | FLAMMABLE LIMITS: (% VOLUME IN AIR) | LOWER: | N/DA |
| AUTOIGNITION TEMP.: | N/AP | | UPPER: | N/DA |
| EXTINGUISHING MEDIA: | DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY, FOAM OR WATER FOG | | | |

SPECIAL FIRE FIGHTING PROCEDURES:

Self contained breathing apparatus should be worn when fighting fires. Decomposition products possible. Water may be ineffective in fighting fire due to low flash point. Heat may build pressure/rupture closed container. Use water spray/fog for cooling. Fire fighters should remain upwind of fires.

UNUSUAL FIRE AND EXPLOSION INFORMATION:

None expected.

7. HEALTH HAZARDS

| ROUTE OF EXPOSURE | PRIMARY ROUTE | SIGNS & SYMPTOMS |
|-------------------------|---------------|---|
| INHALATION: | [X] | May cause symptoms of depression, headache, dizziness, loss of appetite, weakness and lack of coordination |
| SKIN ABSORPTION: | [X] | Symptoms and effects similar to ingestion can occur, especially in infants. |
| SKIN IRRITATION: | [X] | May cause skin irritation, blistering and/or dermatitis upon direct contact. |
| INGESTION: | [X] | Drunkenness, nausea, vomiting, severe stomach pain, dimmed vision progressing to coma and possible death may occur. |
| EYE CONTACT: | [X] | May cause mild eye irritation, burning, tearing, and redness. |
| CHRONIC HEALTH EFFECTS: | | No information available. |

8. PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION:

At general use temperature, an organic vapor cartridge respirator is usually suitable.

If exposure may exceed the PEL/TLV, use of a NIOSH/MSHA approved supplied air respirator operated in a positive pressure mode as specified in OSHA guidelines for chemical hazards is required.

EYE PROTECTION:

Eye protection, including chemical splash goggles or face shield, should be worn when splashing, spraying or other eye contact is possible. Contact lenses should not be worn.

SKIN PROTECTION:

Impervious protective gloves, boots, and head protection should be worn. Equipment should be cleaned thoroughly after each use.

ENGINEERING CONTROLS:

Local exhaust ventilation may be required to meet exposure standard(s) in addition to general room ventilation.

OTHER HYGIENE AND

WORK PRACTICES:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing; washing thoroughly before reuse. Shower after work using plenty of soap and water.

9. EMERGENCY FIRST AID

INHALATION:

Remove to fresh air. Give oxygen or artificial respiration as needed. Obtain medical attention promptly.

EYE CONTACT:

Flush eyes with low pressure water for at least 15 minutes and obtain medical attention immediately. Prompt action is essential.

SKIN CONTACT:

Wash affected area with soap & water. Remove contaminated clothing, including shoes, and clean thoroughly before reuse. Seek medical attention.

INGESTION:

If conscious, give at least two glasses of water to dilute. Induce vomiting. Obtain medical aid immediately!

10. SPILL & DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED:

Release can be human health hazard/be toxic to aquatic life. Evacuate/limit access. Notify fire and environmental authorities. Equip responders with proper protection. Stop release, prevent flow to sewers/public waters. Restrict water use for cleanup. Impound/recover large land spill. Soak up small spill with inert solids, use suitable

disposal

containers. Report per regulatory requirements.

WASTE DISPOSAL METHOD:

Contaminated product/soil/water may be RCRA/OSHA hazardous waste due to potential for eye irritation and water pollution. Landfill solids at permitted sites. Use registered transporters. Incinerate concentrated liquids in systems compatible with liquid wastes where permitted under Federal, State and local regulations. Consult waste disposal authorities.

SPILL REPORTABLE QUANTITY:

National Response Center 800-424-8802

NOTE: ETHYLENE GLYCOL IS A "SARA" TITLE III REGULATED CHEMICAL.

11. ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURE:

Store in tightly closed, properly vented containers away from heat, sparks, open flame and strong oxidizing agents. Use only non-sparking tools. Store drums with bung in up position. Carefully vent internal pressure before beginning transfer. Electrical equipment should conform to national electric code. Handle "empty" containers with care/vapor residue may be combustible. Vapor space above liquid may be combustible/explosive unless blanketed with inert gas.

DECONTAMINATION PROCEDURE:

Equipment exposed to this material should be thoroughly drained, washed and purged prior to maintenance operations.

12. SUPPLEMENT

NOTE ----- QUALIFIERS AND CODES USED IN THIS MSDS.

| | |
|--------------------------|---------------------------------------|
| EQ = EQUAL | AP = APPROXIMATELY |
| LT = LESS THAN | GT = GREATER THAN |
| TR = TRACE | UK = UNKNOWN |
| N/AP = NOT APPLICABLE | N/P = NO APPLICABLE INFORMATION FOUND |
| N/DA = NO DATA AVAILABLE | |

13. DISCLAIMER

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness.

The conditions or methods of handling, storage, use and disposal of the products are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of in any way connected with the handling, storage, use or disposal of the product.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

Prepared by: R.W. PIKE
Date: 8-14-90

MATERIAL SAFETY DATA SHEET

OS NUMBER: 2571
 NUMBER: INC 2571
 UCT NAME: INC 2571 Paraffin Solvent / Dispersant
 NUMBER: - -0
 CHEMICAL NAME: Mixture of Surfactants

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

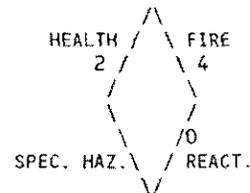
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 03/01/94

HMIS RATINGS:

HEALTH: 2
 FIRE: 4
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

| CAS NUMBER | HAZARDOUS COMPONENT | SUB- SARA | | | | OSHA PEL | ACGIH TLV | OTHER LIMITS RECOMMENDED PERCENT |
|------------|---------------------|-----------|------|--------|-----|----------|-----------|-------------------------------------|
| | | NTP | IARC | PART/Z | 313 | | | |
| 138-86-3 | Terpenes | ? | ? | ? | ? | NI | NI | 15-20% |
| 8030-30-6 | Naphtha, solvent | ? | ? | ? | ? | 100 | NI | 30-35% |

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

| | | | |
|-------------------------|---------|--------------------------------------|---------|
| BOILING POINT | 180 °F. | SPECIFIC GRAVITY (H2O = 1) | 0.92300 |
| VAPOR PRESSURE (mm Hg.) | 12.4 | MELTING POINT | NI |
| VAPOR DENSITY (AIR = 1) | 2.1 | EVAPORATION RATE (Butyl Acetate = 1) | Appreci |

SOLUBILITY IN WATER: Dispersible at 60° F.

APPEARANCE AND ODOR: Amber Liquid, Aromatic Odor

OTHER INFORMATION:

Viscosity Units = N/A pH = N/A
 Freezing Point < 10° F. Dry Point = Unknown

Density (Lb./Gal.) = 7.691

DANGER

Physical Hazards:-
 Flammable Liquid

Generic Name:- Mixture of Surfactants, Isopropanol, Terpenes

UN/NA Number:- UN 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- FLAMMABLE LIQUID, n.o.s.

DOT Hazard Class:- 3

DOT Packing Group:- II

DOT/CERCLA RQ:- N/App.

This product contains no SARA Section 313 Listed Chemicals

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 72 ° F. FLAMMABLE LIMITS: LEL: 2 % UEL: 12 %

EXTINGUISHING MEDIA:

Dry Chemical
 CO2
 Water Spray
 Water Fog

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

UNUSUAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Releases vapors at normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Diluting with water may not suffice to raise flash point above ambient temperatures.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.
Strong Alkalies.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen and sulfur.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause severe eye irritation.

Skin absorption:-

Exposure to a small quantity of this material can result in rapid absorption through the skin, causing a significant health hazard.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a severe skin irritant.

Ingestion:-

No data available. Ingestion of this material may result in aspiration into the lungs causing chemical pneumonia.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

Irritant to nasal passages.

Severe Ingestion Hazard.

Will rapidly absorb through the skin causing significant health hazard.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure.

Contact:-

Severe eye irritation may develop on exposure.

Inhalation:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

Inhalation:-

Coughing and shortness of breath may result. More severe symptoms are also possible.

SECTION VI - HEALTH HAZARD DATA (Continued)

USUAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NI

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric Lavage recommended.

Vigorous anti-inflammatory/steroid treatment may be required at first evidence of pulmonary/upper airway edema.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

PRECAUTIONS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- EXTREMELY FLAMMABLE LIQUID. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. On water, may biodegrade. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Contaminated product/soil/water may be RCRA/OSHA hazardous waste due to potentially low flash point (see 40 CFR 261 and 29 CFR 1910). Waste may be designated D001 under RCRA listing due to presence of Isopropyl Alcohol. Landfill solids at permitted sites. Use registered transporters. Burn concentrated liquids, Avoid flameouts. Assure emissions comply with applicable regulations. Dilute Aqueous waste may biodegrade. Avoid overloading/poisoning plant biomass. Assure effluent complies with applicable regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Other local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due

SECTION VIII - CONTROL MEASURES (Continued)

...spraying liquid or airborne particles. Contact lenses must not be worn.

... Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

EXTREMELY FLAMMABLE.

High Skin Contact Hazard.

May cause long-term adverse health effects.

Skin contact penetrant.

Mucous membrane irritant.

High ingestion hazard - Chemical pneumonia.

Severe eye irritant.

Isopropanol has been reported in one animal study to be fetotoxic at levels of 2.5% in drinking water. No teratogenic effects were, or have been, reported. There are no reports of adverse reproductive effects in humans exposed to this chemical.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself.

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness.

The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of, or in any way connected with the handling, storage, use, or disposal of the product.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).I

MATERIAL SAFETY DATA SHEET

PRODUCT NUMBER: 2560 (1560)
INCIDENT NUMBER: INC 2560
PRODUCT NAME: INC 2560 Paraffin Solvent / Dispersant
PRODUCT NUMBER: - -0
CHEMICAL NAME: Mixture of Solvents and Surfactants

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
Odessa, TX 79763

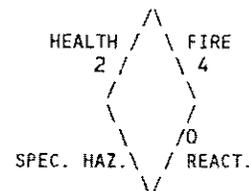
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 03/01/94

HMSIS RATINGS:

HEALTH: 2
FIRE: 4
REACTIVITY: 0
PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

| CAS NUMBER | HAZARDOUS COMPONENT | SUB- SARA | | | OSHA PEL | ACGIH TLV | OTHER LIMITS RECOMMENDED PERCENT |
|------------|------------------------|-----------|------|------------|------------|-----------|----------------------------------|
| | | NTP | IARC | PART/2 313 | | | |
| 108-10-1 | Methyl isobutyl ketone | ? | ? | ? | Y 50 ppm. | 50 ppm. | Propriet. |
| 8030-30-6 | Naphtha, solvent | ? | ? | ? | Y 100 ppm. | NI | Propriet. |
| 108-88-3 | Toluene | ? | ? | ? | Y 100 ppm. | 100 ppm. | Propriet. |

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

| | | | |
|----------------------------|---------|--------------------------------------|---------|
| BOILING POINT | 180 °F. | SPECIFIC GRAVITY (H2O = 1) | 0.92300 |
| VAPOR PRESSURE (mm Hg.) | 23 | MELTING POINT | NI |
| RELATIVE DENSITY (AIR = 1) | 3.3 | EVAPORATION RATE (Butyl Acetate = 1) | Moderat |

SOLUBILITY IN WATER: Slightly Dispersible at 60° F.

APPEARANCE AND ODOR: Dark Amber liquid, Aromatic Odor

OTHER INFORMATION:

Viscosity Units = N/A pH = N/A
Freezing Point < 10° F. Dry Point = Unknown

Density (Lb./Gal.) = 7.147

DANGER

Physical Hazards:-
Flammable Liquid

Generic Name:- Mixture of Surfactants, Solvents

UN/NA Number:- UN 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- FLAMMABLE LIQUID, n.o.s.

DOT Hazard Class:- 3

DOT Packing Group:- II

DOT/CERCLA RQ:- 2,900 Lbs. (Toluene)

This product contains chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The corresponding CAS numbers and percent by weight are listed above.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 59 ° F.

FLAMMABLE LIMITS: LEL: 1 % UEL: 12 %

EXTINGUISHING MEDIA:

Dry Chemical
CO2
Water Spray

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Releases vapors at normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Diluting with water may not suffice to raise flash point above ambient temperatures.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Strong Alkalies.

Heat, sparks, open flames.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen and sulfur.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause severe eye irritation.

Skin absorption:-

Exposure to a small quantity of this material can result in rapid absorption through the skin, causing a significant health hazard.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a severe skin irritant.

Ingestion:-

No data available. Ingestion of this material may result in aspiration into the lungs causing chemical pneumonia.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

Irritant to nasal passages.

Severe Ingestion Hazard.

Will rapidly absorb through the skin causing significant health hazard.

SIGNS AND SYMPTOMS OF EXPOSURE:

Eye Contact:-

Irritation or redness of the skin may develop after exposure.

Skin Contact:-

Severe eye irritation may develop on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

SECTION VI - HEALTH HAZARD DATA (Continued)

Inhalation:-
Coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

This material or its emissions may affect the central nervous system and/or aggravate pre-existing disorders. Prolonged observation may be indicated.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention immediately. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric lavage recommended.

Vigorous anti-inflammatory/steroid treatment may be required at first evidence of pulmonary/upper airway edema.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- EXTREMELY FLAMMABLE LIQUID. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. On water, may biodegrade. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Contaminated product/soil/water may be RCRA/OSHA hazardous waste due to potentially low flash point (see 40 CFR 261 and 29 CFR 1910). Landfill solids at permitted sites. Use registered transporters. Burn concentrated liquids, Avoid flameouts. Assure emissions comply with applicable regulations.

Dilute Aqueous waste may biodegrade.

Avoid overloading/poisoning plant biomass.

Assure effluent complies with applicable regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

EXTREMELY FLAMMABLE.

High Skin Contact Hazard.

May cause long-term adverse health effects.

Skin contact penetrant.

Mucous membrane irritant.

High ingestion hazard - Chemical pneumonia.

Severe eye irritant.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself.

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Printed 05-12-1992

DFC(R) CL-922 CLEANER

MSDS ID: 6-002148

1 - GENERAL INFORMATION

BAKER PERFORMANCE CHEMICALS, INC.
A Baker Hughes company
3920 ESSEX LANE, P.O. BOX 27714
HOUSTON, TEXAS 77227-7714

800-424-9300 ChemTrec
800-231-3606 Emergency
713-599-7400 Information

GENERIC NAME

DATE REVISED: 08-21-90

DOT PROPER SHIPPING NAME
COMBUSTIBLE LIQUID, N.O.S.
(ISOPROPANOL)
DOT HAZARD CLASS
COMBUSTIBLE LIQUID

UN/NA NUMBER
NA 1993

2 - SUMMARY OF HAZARDS

WARNING

PHYSICAL HAZARDS: MODERATELY COMBUSTIBLE LIQUID.

ACUTE HEALTH EFFECTS: NO DATA FOUND; SUSPECT EYE CONTACT HAZARD.
(SHORT TERM) NO DATA FOUND; SUSPECT INHALATION HAZARD.
NO DATA FOUND; SUSPECT SKIN IRRITATION HAZARD.
NO DATA FOUND; SUSPECT INGESTION HAZARD.
NO DATA FOUND; NO EXPECTED SKIN ABSORPTION HAZARD

CHRONIC HEALTH EFFECTS: THIS PRODUCT CONTAINS A DETERGENT COMPONENT WHICH
(LONG TERM) IF CONTACTED REPEATEDLY MAY CAUSE DERMATITIS.

3 - COMPONENTS

| COMPONENT NAME | CAS NUMBER |
|---|------------|
| TRADE SECRET 2148-01# ISOPROPYL ALCOHOL | 67-63-0 |
| TRADE SECRET 2148-02# TRADE SECRET 2148-03# WATER | 7732-18-5 |

THIS PRODUCT CONTAINS NO SARA SECTION 313 LISTED CHEMICALS
US TSCA INVENTORY: ALL COMPONENTS ARE INCLUDED ON THE

4 - PHYSICAL AND CHEMICAL DATA

| | |
|---|---|
| BOILING POINT 180F | PH N/AP |
| FREEZING POINT N/AP | DRY POINT N/AP |
| SPECIFIC GRAVITY (H2O=1 AT 39.2F) 1.09 | VOLATILE CHARACTERISTICS APPRECIABLE |
| VISCOSITY UNITS, TEMP. N/AP | SOLUBILITY IN WATER COMPLETE |
| VAPOR PRESSURE 17.5 MM HG AT 70F | STABILITY STABLE |
| VAPOR SP GR (AIR=1 AT 60 - 90F) .7 | HAZARDOUS POLYMERIZATION NOT EXPECTED TO OCCUR |
| APPEARANCE AND ODOR LIGHT AMBER LIQUID; NO DISTINCT ODOR | |

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ID: 6-002148

5 - PHYSICAL AND CHEMICAL DATA (continued)

CONDITIONS AND MATERIALS TO AVOID
 HEAT SPARKS AND OPEN FLAME
 STRONG ACIDS AND STRONG OXIDIZING AGENTS
 HAZARDOUS DECOMPOSITION PRODUCTS
 INCOMPLETE COMBUSTION MAY RESULT IN OXIDES OF PHOSPHOROUS, SULFUR, NITROGEN A
 POSSIBLY AQUEOUS AMMONIA

5 - OCCUPATIONAL EXPOSURE LIMITS

| SUBSTANCE | SOURCE | DATE | TYPE | VALUE | TIME |
|-------------------|--------|------|------|---------|--------|
| ISOPROPYL ALCOHOL | ACGIH | 1985 | TLV | 400 PPM | 8 HRS |
| | | | STEL | 500 PPM | 15 MIN |
| ISOPROPYL ALCOHOL | OSHA | 1984 | PEL | 400 PPM | 8 HRS |

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(TCC) AUTOIGNITION TEMP. METHOD=
 105F AP 750F

FLAMMABLE LIMITS (% VOLUME IN AIR)
 AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE
 LOWER: 2.0 UPPER: 12.0

FIRE AND EXPLOSION HAZARDS

WHEN HEATED ABOVE FLASH POINT, RELEASES VAPORS. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. FINE SPRAYS/MIST MAY BE COMBUSTIBLE AT TEMPERATURES BELOW NORMAL FLASH POINT.

EXTINGUISHING MEDIA

DRY CHEMICAL

CO2

WATER SPRAY

SPECIAL FIREFIGHTING PROCEDURES

DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. USE WATER SPRAY/FOG FOR COOLING. AVOID FROTHING/STEAM EXPLOSION. BURNING LIQUID MAY FLOAT ON WATER. ALTHOUGH SOLUBLE, MAY NOT BE PRACTICAL TO EXTINGUISH FIRE BY WATER DILUTION. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.

EYE CONTACT -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE EYE IRRITATION.

SKIN ABSORPTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA IS KNOWN TO EXIST, THIS MATERIAL IS NOT EXPECTED TO BE A HEALTH HAZARD BY SKIN ABSORPTION.

SKIN IRRITATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SKIN IRRITANT.

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7 - HEALTH HAZARDS (continued)

INGESTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INGESTION HAZARD.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
THIS MATERIAL OR ITS EMISSIONS MAY AGGRAVATE KIDNEY, URETHRA, AND/OR BLADDER DISEASE.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED AIR-PURIFYING OR SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE PER THE NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

EYE PROTECTION

EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.

SKIN PROTECTION

WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

NO SPECIAL VENTILATION IS USUALLY REQUIRED TO MEET EXPOSURE STANDARD(S) BEYOND THAT NEEDED FOR NORMAL COMFORT CONTROL.

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH W/LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATERLESS CLEANER FIRST. SEEK MEDICAL ATTENTION IF ILL EFFECT OR IRRITATION DEVELOPS.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION.

EMERGENCY MEDICAL TREATMENT PROCEDURES

IF EXPOSED, TREAT SKIN AND EYE BURNS OR IRRITANTS CONVENTIONALLY AFTER DECONTAMINATION.

IF SWALLOWED, DO NOT INDUCE VOMITING. GASTRIC LAVAGE IS RECOMMENDED. HEMODIALYSIS MAY BE INDICATED FOR MORE COMPLETE ELIMINATION.

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

FLAMMABLE LIQUID. RELEASE CAN CAUSE FIRE/EXPLOSION/HUMAN HEALTH HAZARD; CONTAMINATE WATER SUPPLIES; BE TOXIC TO AQUATIC LIFE. EVACUATE/LIMIT ACCESS. EXTINGUISH ALL IGNITION SOURCES. BLANKET WITH FIREFIGHTING FOAM. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, CONTAIN/

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MS ID: 6-002148

10 - SPILL AND DISPOSAL (continued)

MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.
 WASTE DISPOSAL METHODS
 CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIAL FOR EYE IRRITATION/WATER POLLUTION (SEE 40 CFR 261 AND 29 CFR 1910). LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS IN SYSTEMS COMPATIBLE WITH WATER SOLUBLE WASTES. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES
 STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, SPARKS, OPEN FLAME, STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORE DRUMS WITH BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. CONTAINERS MUST BE GROUNDED BEFORE BEGINNING TRANSFER. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. HANDLE "EMPTY" CONTAINERS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE. VAPOR SPACE ABOVE LIQUID MAY BE FLAMMABLE/EXPLOSIVE UNLESS BLANKETED WITH INERT GAS.
 DECONTAMINATION PROCEDURES
 ISOLATE, VENT, DRAIN, WASH AND PURGE SYSTEMS OR EQUIPMENT BEFORE MAINTENANCE OR REPAIR. REMOVE ALL IGNITION SOURCES. CHECK ATMOSPHERE FOR EXPLOSIVENESS AND OXYGEN DEFICIENCIES. USE ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. OBSERVE PRECAUTIONS PERTAINING TO CONFINED SPACE ENTRY.

- LABEL INFORMATION

USE STATEMENT
 FOR INDUSTRIAL USE ONLY
 KEEP OUT OF REACH OF CHILDREN
 SIGNAL WORD
 WARNING
 PHYSICAL HAZARDS
 COMBUSTIBLE
 HEALTH HAZARDS
 SKIN, EYE, AND MUCOUS MEMBRANE IRRITANT
 INGESTION AND INHALATION HAZARD
 PRECAUTIONARY MEASURES
 DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.
 AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.
 AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.
 USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.
 PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.
 WASH THOROUGHLY AFTER HANDLING.
 KEEP CONTAINER CLOSED.

13 - SUPPLEMENT

CHRONIC HEALTH HAZARDS - SECTION 2 AND 7
 THIS PRODUCT CONTAINS A VERY LOW PROPORTION OF BUTYL CELLOSOLVE (AP 1.0%). WHEN TESTED IN PURE FORM AND AT HIGH DOSE LEVELS, THIS COMPONENT HAS PRODUCED LIVER, BLOOD, AND KIDNEY TOXICITY IN EXPERIMENT ANIMALS. IT HAS ALSO DAMAGED THE DEVELOPING FETUS IN ANIMAL STUDIES. AT THE PERCENT IT OCCURS IN THIS PRODUCT, IT IS NOT CONSIDERED TO PRESENT A SIGNIFICANT HEALTH HAZARD.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS
 EQ = EQUAL
 LT = LESS THAN
 TR = TRACE
 AP = APPROXIMATELY
 GT = GREATER THAN
 UK = UNKNOWN

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13 - SUPPLEMENT (continued)

N/AP = NOT APPLICABLE
N/DA = NO DATA AVAILABLE

N/P = NO APPLICABLE INFORMATION FOUND

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

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THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

ARCO Chemical Company requests Customer to study this Data Sheet and become aware of Product hazards. To promote safe handling Customer should (1) notify its employees, agents and contractors of the information on this Data Sheet, and any Product hazards and safety information, (2) furnish a copy of this Data Sheet to each of its customers for the Product and (3) request such customers to notify their employees and customers for the Product of the information on this Data Sheet and any Product hazards and safety information.

| | | | | | |
|--|--|--|---|-------------------------------------|------------------------------|
| Section I - General | | Manufacturer's name ARCO CHEMICAL COMPANY | | Material name ArcoSol P-571 (SS) | |
| Manufacturer's address 9100 W. 21st Street Sand Springs, OK 74063 | | Emergency telephone (24 hour) 215/353-8300 | | | |
| Name (brand-trade) and synonyms N/A | | | Chemical family Industrial Solvent - Dispersant | | |
| Section II - Summary of hazardous information | | Summary CAUTION: MODERATELY COMBUSTIBLE - Keep away from heat, sparks, and open flame. WARNING: HIGH SKIN, EYE, AND INHALATION HAZARD - Avoid skin and eye contact and prolonged or repeated inhalation of vapors. | | | |
| TLV 100 ppm (Estimated) | | | | | |
| Section III - Physical and reactivity data | | Boiling point (°F) 220° F | Evaporation rate (ratio of time) (Ether = 1) > | Other N/A | |
| Vapor pressure (mm Hg at 70° F) 2.0 (Calc.) | | Incompatibility (materials to avoid) Strong oxidizing agent, strong alkalis | | | |
| Vapor density (air = 1 at 60-99° F) 3.8 (Calc.) | | Stability Conditions to avoid (X) Stable () Unstable Heat and open flame | | | |
| Specific gravity (H ₂ O = 1 at 39.2° F) 0.945 | | Hazardous polymerization may occur () Occur (X) Not occur Appearance and odor Dark amber and aromatic odor | | | |
| Volatile characteristics Slight | | Hazardous decomposition products Incomplete combustion may produce carbon monoxide and oxides and/or compounds of nitrogen and sulfur. | | | |
| Solubility in water Moderate | | | | | |
| Section IV - Fire and explosion data | | Flash point (°F) 107° F (method used) (D-56) | Flammable limits at normal atmos. temp. and pressure (% by volume in air) | Lower flammable limit 1.1 | Upper flammable limit 7.0 |
| Autoignition temp. (° F) 867° F (Approx.) | | Extinguishing media Carbon dioxide, dry chemical and alcohol type foam | | | |
| Special fire fighting procedures For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, such as self-contained breathing apparatus. See Section III, Hazardous Decomposition Products for unusual decomposition products. | | | | | |
| Unusual fire and explosion hazards MODERATELY COMBUSTIBLE - When heated above the flashpoint, it releases flammable vapors which when mixed with air (see Flammable Limits) can burn or be explosive. Fine mists or sprays of this material may be flammable at temperatures below the normal flashpoint. | | | | | |
| Section V - First aid and emergency procedures | | Note to physician Do not induce vomiting. | | | |
| Eye contact | | - Flush eyes with plenty of low-pressure water. (At least 15 minutes) Obtain medical attention immediately. Prompt action is essential. | | | |
| Skin contact | | - Wash affected area with soap and water; remove contaminated clothing, including shoes, and clean thoroughly before reuse; seek medical attention immediately. | | | |
| Inhalation | | - Immediately remove from contaminated area for fresh air. Keep individual quiet. In the event of respiratory distress, give oxygen or artificial respiration. | | | |
| Ingestion | | - Do not induce vomiting. Aspiration into lungs may cause chemical pneumonia. | | | |

Adapted from US Dept. of Commerce, Bureau of Mines, Form 1605-101-01-80, May 1978

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- PHYSICAL AND CHEMICAL DATA (continued)

APPEARANCE AND ODOR
PALE AMBER LIQUID/ALCOHOL ODOR
CONDITIONS AND MATERIALS TO AVOID
HEAT AND OPEN FLAME
STRONG OXIDIZING AGENTS, STRONG ALKALIES CORROSIVE TO MILD STEEL, ALUMINUM, BRAS
HAZARDOUS DECOMPOSITION PRODUCTS
BURNING TO DECOMPOSITION MAY PRODUCE CARBON MONOXIDE AND/OR OXIDES OF NOTROGE
POSSIBLE HYDROCHLORIC ACID

5 - OCCUPATIONAL EXPOSURE LIMITS

| SUBSTANCE | SOURCE | DATE | TYPE | VALUE | TIME |
|----------------------|--------|------|------|---------|--------|
| TRADE SECRET 5439-02 | ACGIH | 1987 | TWA | 1 MG/M3 | 8 HRS |
| | | | STEL | 2 MG/M3 | 15 MIN |
| METHANOL | ACGIH | 1987 | TWA | 200 PPM | 8 HRS |
| | | | STEL | 250 PPM | 15 MIN |
| TRADE SECRET 5439-03 | ACGIH | 1987 | TWA | 10 PPM | 8 HRS |
| | | | STEL | 15 PPM | 15 MIN |
| TRADE SECRET 5439-04 | ACGIH | 1987 | TWA | 3 PPM | 8 HRS |
| | | | STEL | 6 PPM | 15 MIN |

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(D-56) AUTOIGNITION TEMP. METHOD=
AP 92F AP 878F

FLAMMABLE LIMITS (% VOLUME IN AIR)

AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE

LOWER: 6.0 UPPER: 36.5

FIRE AND EXPLOSION HAZARDS

RELEASES VAPORS AT NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. FLAMMABLE VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. DILUTING WITH WATER MAY NOT SUFFICE TO RAISE FLASH POINT ABOVE AMBIENT TEMPERATURES.

EXTINGUISHING MEDIA

DRY CHEMICAL

CO2

WATER SPRAY

FOAM

SPECIAL FIREFIGHTING PROCEDURES

DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. USE WATER SPRAY/FOG FOR COOLING. AVOID FROTHING/STEAM EXPLOSION. BURNING LIQUID MAY FLOAT ON WATER. ALTHOUGH SOLUBLE, MAY NOT BE PRACTICAL TO EXTINGUISH FIRE BY WATER DILUTION. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

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- HEALTH HAZARDS (continued)

INHALATION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.

EYE CONTACT

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE EYE IRRITATION.

SKIN ABSORPTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A HEALTH HAZARD BY SKIN ABSORPTION.

SKIN IRRITATION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SKIN IRRITANT.

INGESTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INGESTION HAZARD.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

THIS MATERIAL OR ITS EMISSIONS MAY AFFECT REPRODUCTIVE/GENETIC TISSUE.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

WEAR NIOSH APPROVED ORGANIC AMINES MASK.

EYE PROTECTION

EYE PROTECTION SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE SHIELD MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING LIQUID, AIRBORNE PARTICLES, OR VAPOR. CONTACT LENSES SHOULD NOT BE WORN.

SKIN PROTECTION

WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

GENERAL ROOM OR LOCAL EXHAUST VENTILATION IS USUALLY REQUIRED TO MEET EXPOSURE STANDARD(S).

OTHER HYGENIC CONTROLS

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH W/LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATERLESS CLEANER FIRST. SEEK MEDICAL ATTENTION IF ILL EFFECT OR IRRITATION DEVELOPS.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION.

EMERGENCY MEDICAL TREATMENT PROCEDURES

METHANOL INGESTION IS LIFE-THREATENING. INDUCE VOMITING WITH SYRUP OF IPECAC. FOLLOW EMESIS WITH MODERATE AMOUNTS OF WATER ORALLY. SYMPTOM ONSET MAY BE DELAYED. ETHANOL THERAPY MAY BE INDICATED.

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10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED
FLAMMABLE LIQUID. EXTINGUISH ALL IGNITION SOURCES. BLANKET WITH FIRE-FIGHTING FOAM. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS

CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE (SEE 40 CFR 261 AND 29 CFR 1910). IF SPENT SOLVENT INTENDED FOR DISPOSAL, MAY BE DESIGNATED F005; IF SPILL CLEANUP RESIDUE, U154 UNDER RCRA LISTINGS. LAND-FILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS IN SYSTEMS DESIGNED FOR LOW FLASH POINT MATERIAL. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES

MATERIAL IS FLAMMABLE! KEEP CONTAINERS TIGHTLY CLOSED WHEN NOT IN USE. STORE AWAY FROM HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORAGE IN CLOSED GLASS, STAINLESS STEEL, PLASTIC OR EPOXY LINED VESSELS IS RECOMMENDED. DO NOT USE ALUMINUM OR IRON IN FEED OR STORAGE SYSTEMS.

DECONTAMINATION PROCEDURES

ISOLATE, VENT, DRAIN, WASH, AND PURGE EQUIPMENT BEFORE MAINTENANCE. REMOVE ALL IGNITION SOURCES. CHECK ATMOSPHERE FOR EXPLOSIVENESS AND OXYGEN DEFICIENCIES. IF ANY RESIDUAL PRODUCT MAY BE PRESENT, TOTAL-ENCAPSULATING IMPERVIOUS PROTECTIVE SUITS, GLOVES, AND BOOTS SHOULD BE WORN. SEE PROTECTIVE EQUIPMENT SECTION 8 FOR PROPER RESPIRATORY PROTECTION.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD

WARNING

PHYSICAL HAZARDS

HIGHLY FLAMMABLE

HEALTH HAZARDS

INGESTION AND INHALATION HAZARD

SKIN AND EYE IRRITANT

PRECAUTIONARY MEASURES

POISON (W/SKULL AND CROSSBONES SYMBOL)

DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.

DO NOT STORE NEAR COMBUSTIBLE MATERIALS.

AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.

AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.

USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.

PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.

WASH THOROUGHLY AFTER HANDLING.

DO NOT TASTE/SWALLOW.

KEEP CONTAINER CLOSED.

13 - SUPPLEMENT

SUPPLEMENT: SECTIONS 2 AND 7 HEALTH HAZARDS

THIS MATERIAL CONTAINS METHANOL, WHICH, WHEN INGESTED, HAS CAUSED ACIDOSIS, OCULAR TOXICITY RANGING FROM DIMINISHED VISUAL CAPACITY TO COMPLETE BLINDNESS, AND DEATH.

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- SUPPLEMENT (continued)

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

| | |
|--------------------------|---------------------------------------|
| EQ = EQUAL | AP = APPROXIMATELY |
| LT = LESS THAN | GT = GREATER THAN |
| TR = TRACE | UK = UNKNOWN |
| N/AP = NOT APPLICABLE | N/P = NO APPLICABLE INFORMATION FOUND |
| N/DA = NO DATA AVAILABLE | |

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

SECTION I - PRODUCT IDENTIFICATION

Manufacturer: JETCO CHEMICALS, INC.
P. O. BOX 1898

Information Phone: 903-872-3011
Emergency Phone: 903-874-9500
CHEMTREC Phone: 800-424-9300

CORSICANA TX 75151

Product Class: Encapsulated Scale/Corr. Inhib
Trade Name : JET CAP SC501
Product Code : CAPSC501.2
C.A.S. Number: Mixture
Shipping Name: CORROSIVE LIQUID, N.O.S. (CONTAINS HYDROCHLORIC ACID) UN1760

Hazard Ratings: Health - 2
none -> extreme Fire - 0
0 ---> 4 Reactivity - 1
Personal Protection - B

SECTION II - HAZARDOUS INGREDIENTS

| Ingredients | CAS # | Weight % | Exposure Limits | | VP |
|-------------------|-----------|----------|-----------------|----------|----------|
| | | | ACGIH/TLV | OSHA/PEL | |
| HYDROCHLORIC ACID | 7647-01-0 | 1-5 | C 5 | ppm C5 | ppm N/AV |
| | | STEL= | C 7 | C7 | |

HCL is a SARA 313 listed chemical

*** ALL Ingredients in this product are listed in the T.S.C.A. Inventory.

* -> These items are listed on the SARA TITLE III Section 313 inventory

SECTION III - PHYSICAL DATA

Boiling Range: 212 Deg. F
Evap. Rate: Slower than n-Butyl Acetate
Volatiles volume: 0.9 %
Vapor Density: Heavier than Air.
Liquid Density: Heavier than Water.
Wgt per gallon: 9.163 Pounds.
Spec. Gravity: 1.10

Appearance: Capsules in Brine

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class: Flash Point: > 200 F LEL:

-EXTINGUISHING MEDIA:

Dry chemical, carbon dioxide, water spray, foam, or water fog.

-SPECIAL FIREFIGHTING PROCEDURES:

Appropriate breathing apparatus should be worn when fighting fires. Decomposition products possible. Water may be ineffective in fighting fires due to low flash point. Heat may build pressure/rupture closed container, spreading fire. Use water spray/fog for cooling.

-UNUSUAL FIRE & EXPLOSION HAZARDS:

May release flammable vapors at elevated temperatures which can burn in open or explode if confined. When heated, corrosive vapors may be generated. May travel long distances along the ground before igniting/flashing back to vapor source. Water dilution may not suffice to raise the flash point.

SECTION VII - SPILL OR LEAK PROCEDURES (cont.)

-WASTE DISPOSAL METHOD:

Contaminated soil/water/product may be RCRA/OSHA hazardous waste due to potentially low flash point. Landfill at permitted sites. Use registered transporters. Incinerate concentrated liquids in systems compatible with liquid wastes where permitted under federal, state and local regulations. Consult waste disposal authorities.

-SPILL REPORTABLE QUANTITY:

SECTION VIII - SPECIAL PROTECTION INFORMATION

-RESPIRATORY PROTECTION:

If exposure may exceed established standards, use of NIOSH/MSHA approved respiratory equipment operated in compliance with the OSHA Standard for Respiratory Protection (29 CFR 1910.134) is required.

-VENTILATION:

Local exhaust ventilation may be required to meet exposure standards in addition to good room ventilation.

-PROTECTIVE GLOVES:

Impervious protective suit with gloves, boots, and full head gear protection must be worn. Equipment should be cleaned thoroughly after each use.

-EYE PROTECTION:

Eye protection, including both chemical splash goggles and face shield, must be worn when splashing, spraying, or other eye contact is possible.

-OTHER PROTECTIVE EQUIPMENT:

Emergency eyewash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing; washing thoroughly before reuse. Shower after work using plenty of soap and water.

SECTION IX - SPECIAL PRECAUTIONS

-PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Store in tightly sealed drums or in properly ventilated tanks away from heat, sparks, open flames, and strong oxidants. Use only non-sparking tools. Store drums with bung in up position. Carefully vent internal pressure before beginning transfer. Electrical equipment should conform to national electric code. Handle empty containers with care; vapor residue may be flammable. Vapor space above liquid may be flammable/explosive unless blanketed with inert gas.

(22)

MATERIAL SAFETY DATA SHEET

NUMBER: 852
NUMBER: INC 852
PRODUCT NAME: INC 852 Emulsion Breaker
CAS NUMBER: - -0
CHEMICAL NAME: Mixture of Surfactants

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
Odessa, TX 79763

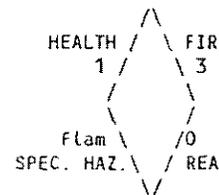
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 08/01/94

HMIS RATINGS:

HEALTH: 1
FIRE: 3
REACTIVITY: 0
PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

| CAS NUMBER | HAZARDOUS COMPONENT | SUB- SARA | | | OSHA PEL | ACGIH TLV | OTHER LIMITS RECOMMENDED PERCENT |
|------------|---------------------|-----------|------|------------|-------------------|-----------|-------------------------------------|
| | | NTP | IARC | PART/2 313 | | | |
| 67-63-0 | Isopropanol | ? | ? | ? | 100ppm/day NI | Propriet | |
| 91-20-3 | Naphthalene | ? | ? | ? | 10 ppm. 15 ppm ST | 0.2 % Vol | |

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

| | | | |
|----------------------------|--------|--------------------------------------|---------|
| BOILING POINT | 181 F. | SPECIFIC GRAVITY (H2O = 1) | 0.96000 |
| VAPOR PRESSURE (mm Hg.) | 4.4 | MELTING POINT | NI |
| RELATIVE DENSITY (AIR = 1) | NI | EVAPORATION RATE (Butyl Acetate = 1) | NI |

SOLUBILITY IN WATER: Dispersible at 60 F.

APPEARANCE AND ODOR: Dark amber liquid, Alcohol odor

OTHER INFORMATION:

Viscosity Units = N /A pH = App. 8.0
Freezing Point =N /A Dry Point = N/A

Density (Lb./Gal.) = 7.998

DANGER

Physical Hazards:-
Flammable Liquid

Generic Name:- Emulsion Breaker (Mixture of Phenolic Derivatives)

UN/NA Number:- UN 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- Flammable Liquid, n.o.s.
(Isopropanol)

DOT Hazard Class:- 3

DOT Packing Group:- III

DOT/CERCLA RQ:- 100 Lbs. (Naphthalene)

This product contains chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments Reauthorization Act of 1986 and 40 CFR Part 372 (the corresponding CAS numbers and percent by weight are also provided).

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

| | |
|---|--------------------------------------|
| FLASH POINT: 80 F. | FLAMMABLE LIMITS: LEL: 2 % UEL: 13 % |
| EXTINGUISHING MEDIA: Dry Chemical CO2 | |

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

ter fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES: NONE

SECTION V - REACTIVITY DATA

STABILITY:

Product is stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents such as Hydrogen Peroxide, Bromine, and Chromic Acid.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen and sulfur.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:-

No appropriate human or animal health effects data are known to exist.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.
Irritant to Skin.
Severe Ingestion Hazard.
Inhalation Hazard

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure. This liquid can defat the skin, producing a dermatitis characterized by drying and defatting.

Eye Contact:-

Severe eye irritation may develop on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

Inhalation:-

Coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NI

SECTION VI - HEALTH HAZARD DATA (Continued)

GENUITY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract eyelids often. Obtain emergency attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting. Risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric Lavage recommended.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoid contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, if spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, solid), all hazard precautions given in the data sheet must be observed.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:- If workplace exposure limit(s) of product or any component is exceeded, a NIOSH/MSHA approved air supply respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your safety equipment supplier). Engineering or administrative controls should be implemented to reduce exposure.

Ventilation:- Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Protective Gloves:- Wear resistant gloves such as: Nitrile Rubber.

Eye Protection:- Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other types of safety glasses. (Consult your safety equipment supplier).

Other Protective Equipment:- To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

MATERIAL SAFETY DATA SHEET

Printed 11-19-1990

Page 1

OFC (R) C-107 (SS) CORROSION INHIBITOR

610: 6-005046

1 - GENERAL INFORMATION

CHEMLINK PETROLEUM
9101 W 21ST STREET
SAND SPRINGS, OK 74063
800/424-9300 ChemTrec
800/444-8969 Emergency
918/245-2224 Information

GENERIC NAME

DATE REVISED: 04-30-90

DOT PROPER SHIPPING NAME
FLAMMABLE LIQUID, N.O.S.
(ISOPROPANOL, XYLENE)
DOT HAZARD CLASS
FLAMMABLE LIQUID

UN/NA NUMBER
UN 1993

2 - SUMMARY OF HAZARDS

DANGER
PHYSICAL HAZARDS:

EXTREMELY FLAMMABLE LIQUID

ACUTE HEALTH EFFECTS:
(SHORT TERM)

NO DATA FOUND; SUSPECT INHALATION HAZARD
NO DATA FOUND; SUSPECT EYE CONTACT HAZARD
NO DATA FOUND; SUSPECT SKIN IRRITATION HAZARD
NO DATA FOUND; SUSPECT ASPIRATION HAZARD
NO DATA ON SKIN ABSORPTION FOUND

CHRONIC HEALTH EFFECTS:
(LONG TERM)

NO INFORMATION IS AVAILABLE ON CHRONIC HEALTH
HAZARDS. HOWEVER, REPEATED SKIN CONTACT SHOULD
BE AVOIDED AS THIS PRODUCT MAY CONTAIN POLYNUC-
LEAR AROMATIC HYDROCARBONS WHICH HAVE BEEN
REPORTED TO INDUCE TUMORS IN LAB ANIMALS.
SEE SUPPLEMENT.

3 - COMPONENTS

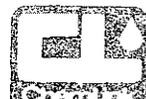
Table with 3 columns: COMPONENT NAME, CAS NUMBER, % COMPOSITION BY (WT.). Rows include HEAVY AROMATIC SOLVENT, *N-BUTYL ALCOHOL, WATER, ISOPROPYL ALCOHOL, *XYLENE.

* THIS IS A SARA SECTION 313 LISTED CHEMICAL
US TSCA INVENTORY: ALL COMPONENTS ARE INCLUDED ON THE US TSCA INVENTORY

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT
AP 300F
FREEZING POINT
N/DA
SPECIFIC GRAVITY (H2O=1 AT 39.2F)
AP .95

PH
N/AP
DRY POINT
N/DA
VOLATILE CHARACTERISTICS
MODERATE



OFC(R) C-107 (SS) CORROSION INHIBITOR

ID: 6-005046

4 - PHYSICAL AND CHEMICAL DATA (continued)

VISCOSITY UNITS, TEMP.
N/DA

VAPOR PRESSURE
AP 13.0 MM HG AT 70F

VAPOR SP GR (AIR=1 AT 60 - 90F)
AP 1.9

APPEARANCE AND ODOR
DARK BROWN LIQUID; SLIGHT ALCOHOL ODOR

CONDITIONS AND MATERIALS TO AVOID
HEAT, SPARKS, OPEN FLAME
STRONG OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS
WHEN HEATED TO DECOMPOSITION, MAY GENERATE CARBON MONOXIDE AS WELL AS OXIDES
AND/OR COMPOUNDS OF NITROGEN.

SOLUBILITY IN WATER
MODERATE

STABILITY
STABLE

HAZARDOUS POLYMERIZATION
NOT EXPECTED TO OCCUR

5 - OCCUPATIONAL EXPOSURE LIMITS

| SUBSTANCE | SOURCE | DATE | TYPE | VALUE | TIME |
|----------------------|--------|------|---------|---------|--------|
| XYLENE | OSHA | 1971 | PEL | 100 PPM | 8 HRS |
| | ACGIH | 1985 | TLV | 100 PPM | 8 HRS |
| | | | STEL | 150 PPM | 15 MIN |
| ISOPROPANOL | OSHA | 1971 | PEL | 400 PPM | 8 HRS |
| | ACGIH | 1985 | TLV | 400 PPM | 8 HRS |
| | | | STEL | 500 PPM | 15 MIN |
| BUTYL ALCOHOL | OSHA | 1971 | PEL | 100 PPM | 8 HRS |
| BUTYL ALCOHOL - SKIN | ACGIH | 1985 | CEILING | 50 PPM | |

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(TCC)
AP 61F

AUTOIGNITION TEMP. METHOD=
AP 750F

FLAMMABLE LIMITS (% VOLUME IN AIR)
AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE
LOWER: AP 2.0 UPPER: AP 12.0

FIRE AND EXPLOSION HAZARDS
RELEASES VAPORS AT NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. FLAMMABLE VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE.

EXTINGUISHING MEDIA
DRY CHEMICAL
CO2
WATER SPRAY
ALCOHOL
WATER FOG

SPECIAL FIREFIGHTING PROCEDURES
DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. DO NOT USE SOLID WATER STREAM/MAY SPREAD FIRE. USE WATER SPRAY/FOG FOR COOLING. AVOID FROTHING/STEAM EXPLOSION. BURNING LIQUID WILL FLOAT ON WATER. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.



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 ID: 6-005046

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.

EYE CONTACT -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE SEVERE EYE IRRITATION.

SKIN ABSORPTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA IS KNOWN TO EXIST, THIS MATERIAL IS NOT EXPECTED TO BE A HEALTH HAZARD BY SKIN ABSORPTION.

SKIN IRRITATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SEVERE SKIN IRRITANT.

INGESTION

NO DATA AVAILABLE. INGESTION OF THIS MATERIAL MAY RESULT IN ASPIRATION INTO THE LUNGS CAUSING CHEMICAL PNEUMONIA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

THIS MATERIAL OR ITS EMISSIONS MAY CAUSE DAMAGE TO KIDNEY AND LIVER AND/OR AGGRAVATE EXISTING DISORDERS.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED AIR-PURIFYING OR SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE PER THE NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

EYE PROTECTION

EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.

SKIN PROTECTION

IMPERVIOUS PROTECTIVE SUIT WITH GLOVES, BOOTS, AND FULL HEAD AND FACE PROTECTION MUST BE WORN. THE EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

PROVIDE LOCAL EXHAUST OR GENERAL ROOM VENTILATION TO MINIMIZE EXPOSURE TO VAPORS. ELECTRICAL SYSTEMS SHOULD CONFORM TO NATIONAL ELECTRIC CODE.

OTHER HYGIENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST. OBTAIN EMERGENCY MEDICAL ATTENTION.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.



CEC(R) C-107 (SS) CORROSION INHIBITOR
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- EMERGENCY AND FIRST AID (continued)

EMERGENCY MEDICAL TREATMENT PROCEDURES

VIGOROUS ANTI-INFLAMMATORY/STEROID TREATMENT MAY BE REQUIRED AT FIRST EVIDENCE OF PULMONARY/UPPER AIRWAY EDEMA.
IF SWALLOWED, DO NOT INDUCE VOMITING. GASTRIC LAVAGE IS RECOMMENDED.
HEMODIALYSIS MAY BE INDICATED FOR MORE COMPLETE ELIMINATION.

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

FLAMMABLE LIQUID. EXTINGUISH ALL IGNITION SOURCES. BLANKET WITH FIRE-FIGHTING FOAM. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS

CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIALLY LOW FLASH POINT (SEE 40 CFR 261 AND 29 CFR 1910). LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES

STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, SPARKS, OPEN FLAME, STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORE DRUMS WITH BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. CONTAINERS MUST BE GROUNDED BEFORE BEGINNING TRANSFER. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. HANDLE "EMPTY" CONTAINERS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE. VAPOR SPACE ABOVE LIQUID MAY BE FLAMMABLE/EXPLOSIVE UNLESS BLANKETED WITH INERT GAS.

DECONTAMINATION PROCEDURES

ISOLATE, VENT, DRAIN, WASH, AND PURGE EQUIPMENT BEFORE MAINTENANCE. REMOVE ALL IGNITION SOURCES, CHECK ATMOSPHERE FOR EXPLOSIVENESS AND OXYGEN DEFICIENCIES. IF ANY RESIDUAL PRODUCT MAY BE PRESENT, TOTAL-ENCAPSULATING IMPERVIOUS PROTECTIVE SUITS, GLOVES, AND BOOTS SHOULD BE WORN. SEE PROTECTIVE EQUIPMENT SECTION B FOR PROPER RESPIRATORY PROTECTION.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD

ANGER

PHYSICAL HAZARDS

EXTREMELY FLAMMABLE

HEALTH HAZARDS

SEVERE SKIN AND EYE IRRITANT

HIGH INGESTION HAZARD-CHEMICAL PNEUMONIA

INHALATION HAZARD

SIMILAR MATERIAL INDUCES TUMORS IN LAB ANIMALS

PRECAUTIONARY MEASURES

DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.

STORE IN TIGHTLY CLOSED CONTAINERS.

AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.

DO NOT BREATHE VAPOR.

USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.

PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.

DO NOT TAKE INTERNALLY.

WASH THOROUGHLY AFTER HANDLING.



SEC(R) C-107 (SS) CORROSION INHIBITOR
 1: 6-005046

5 - SUPPLEMENT

ACUTE AND CHRONIC HEALTH EFFECTS

REGARDING POTENTIAL CHRONIC HEALTH HAZARDS WHICH MAY RESULT FROM LONG-TERM, REPEATED CONTACT, THIS MATERIAL MAY CONTAIN POLYNUCLEAR AROMATIC HYDROCARBONS (PNA'S). STUDIES HAVE SHOWN THAT THE REPEATED PAINTING OF PNA'S ON THE SKIN OF EXPERIMENTAL ANIMALS OVER A SUSTAINED PERIOD OF TIME RESULTS IN THE INDUCTION OF TUMORS. INDIVIDUALS SHOULD AVOID SKIN CONTACT AND SHOULD WASH AFFECTED AREAS IMMEDIATELY IF CONTACT OCCURS.

PROLONGED, REPEATED EXPOSURES TO HIGH LEVELS OF XYLENE CAN INDUCE CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DEPRESSION, DIZZINESS, NUMBNESS, TREMORS, IMPAIRED MEMORY, HEADACHE, NAUSEA AND LACK OF APPETITE. MODERATE LIVER ENLARGEMENT, KIDNEY INVOLVEMENT AND EVEN DEATH IS POSSIBLE IF EXPOSURE IS NOT CONTROLLED.

ISOPROPANOL HAS BEEN REPORTED IN ONE STUDY TO BE FETOTOXIC AT LEVELS OF 2.5% IN DRINKING WATER. NO TERATOGENIC EFFECTS WERE OR HAVE BEEN REPORTED. THERE ARE NO REPORTS OF ADVERSE REPRODUCTIVE EFFECTS IN HUMANS EXPOSED TO THIS CHEMICAL.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

| | |
|--------------------------|---------------------------------------|
| EQ = EQUAL | AP = APPROXIMATELY |
| LT = LESS THAN | GT = GREATER THAN |
| TR = TRACE | UK = UNKNOWN |
| N/AP = NOT APPLICABLE | N/P = NO APPLICABLE INFORMATION FOUND |
| N/OA = NO DATA AVAILABLE | |

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).



| | | |
|---|----------|---|
| Section VI - Health Hazard Data | | Primary Hazard |
| | | Material may cause eye irritation upon direct contact. |
| Route of Exposure | Affected | Signs and Symptoms |
| Eye Contact | x | Material may cause eye irritation upon direct contact. |
| Skin Irritation | x | This material may cause skin irritation upon direct contact. |
| Inhalation | x | Prolonged exposure to excess vapor concentrations of this material may cause signs and symptoms of central nervous system depression such as headache, dizziness, loss of appetite, weakness, and loss of coordination. |
| Ingestion | x | Ingestion may cause toxic effects. |
| Skin Absorption | | |
| Effects of Overexposure | | |
| Ingestion or inhalation of large quantities of vapor may cause headache, fatigue, nausea, visual impairment or complete blindness, and respiratory failure. | | |

| | |
|---|---|
| Section VII - Spill or Leak Procedures | Precautions if Material Is Spilled or Released |
| | Eliminate all sources of ignition in vicinity of the spill or release vapor. |
| Waste Disposal Methods | Soak up spill with sand or earth and shovel into container. Dispose of in approved dump site or incinerator. The contaminated area should be flushed with water being certain not to contaminate storm drain or water supplies. |

| | |
|--|--|
| Section VIII - Special Protection Information | Ventilation |
| | Normally not required. |
| Eye Protection | Eye protection, such as chemical type goggles or face mask, should be worn whenever splashing, spraying, or other eye contact is likely. |
| Skin Protection | Avoid prolonged or repeated skin contact, and use good personal hygiene. |
| Respiratory Protection | When exposure above the established standard is likely, a respiratory protection program which complies with OSHA General Industry Standard 1910.134 (e) and respiratory equipment approved by NIOSH/MESA should be implemented. |
| Other Protection | N/A |

| | |
|---|--|
| Section IX - Special Precautions | Handling and Storage |
| | Keep container closed when not in use. Store away from heat, open flame, or direct sunlight. Keep out of reach of children. Containers should be decontaminated and all residual contents removed before disposal. SLIGHTLY COMBUSTIBLE. |
| General Comments | All electrical equipment in areas where material is stored and/or handled should be installed in accordance with applicable requirements of the National Electric Code, N.F.P.A. |
| | Date Issued October, 1978 |

Disclaimer of Liability
 As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

Atlantic Richfield Company **TEMPORARY**
 Material Safety Data Sheet _____ MSDS 2225

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| | |
|-------------------------------|---------------|
| Material Name | ArcoHib S-225 |
| Specification Code | N/A |
| Emergency Telephone (24 hour) | 918/588-8418 |

| | | | |
|---------------------|---------------------------------|---|-----------------|
| Section I - General | Manufacturer's Name | ARCO/Chemical Company | |
| | Manufacturer's Address | Div. of Atlantic Richfield Co. 9100 West 21st Street Sand Springs, Oklahoma 74063 | |
| | Name (Brand-Trade) and Synonyms | N/A | |
| | | Chemical Family | Scale Inhibitor |

| | |
|---|--|
| Section II - Summary of Hazardous Information | Summary |
| TLV 100 ppm (estimated) | CAUTION: MODERATE SKIN, EYE AND INHALATION HAZARD - Avoid prolonged or repeated skin contact. Avoid breathing vapors. Avoid eye contact. |

| | | | | | | | |
|--|---|--|--------------------------------------|--|---------------------|----------------|---------------------------------------|
| Section III - Physical and Chemical Data | Boiling Point (°F) | >212° F. | Evaporation Rate (ratio of time) | (Ether = 1) >1 | Other | pH = 8.5 - 9.5 | |
| | Vapor Pressure (mm Hg at 70° F) | 14.2 (calc) | Incompatibility (materials to avoid) | Strong acids, alkalis and strong oxidizing agents. | | | |
| | Vapor Density (air = 1 at 60-99° F) | 0.79 (calc) | Stability | Conditions to Avoid | | | |
| | Specific Gravity (water = 1 at 39.2° F) | 1.080 | Hazardous Polymerization May Occur | () Occur (X) Not Occur | Appearance and Odor | | Light amber liquid; no distinct odor. |
| | Volatle Characteristics | Moderate | Hazardous Decomposition Products | | | | |
| Solubility in Water | Complete | Incomplete combustion may result in oxides of phosphorous, sulfur, nitrogen and possibly aqua ammonia. | | | | | |

| | | | | | |
|--------------------------------------|--------------------------------|--------------|---|-----------------------|-----------------------|
| Section IV - Fire and Explosion Data | Flash Point (°F) (method used) | >200 (D56) | Flammable Limits at Normal Atmos. Temp. and Pressure (% by volume in air) | Lower Flammable Limit | Upper Flammable Limit |
| | Autoignition Temp. (°F) | N/A* | Extinguishing Media | Water Spray | |

Special Fire Fighting Procedures For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, such as self-contained breathing apparatus. See Section III, Hazardous Decomposition Products for unusual decomposition products.

Unusual Fire and Explosion Hazards MODERATELY COMBUSTIBLE. When heated above the flashpoint, it releases flammable vapors which when mixed with air (see Flammable Limits) can burn or be explosive. Fine mists or sprays of this material may be flammable at temperatures below the normal flashpoint.
 *Solvent system is primarily water.

Section V - First Aid and Emergency Procedures

Note to Physician
 If swallowed, induce vomiting.

| | |
|--------------|--|
| Eye Contact | Flush eyes with plenty of low pressure water. |
| Skin Contact | Immediately wash skin with soap and plenty of water. Remove contaminated clothing and thoroughly clean before reuse. |
| Inhalation | Immediately remove from contaminated area for fresh air. |
| Ingestion | Induce vomiting by sticking finger down throat. Immediately obtain medical attention. |

OFFICE SC-303 SCALE/CORROSION INHIBITOR
 MSDS NO. 6-005501

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1 - GENERAL INFORMATION

CHEMLINK PETROLEUM
 9100 W. 21ST STREET
 SAND SPRINGS, OK 74063

800/424-9300 ChemTrec
 800/232-1616 Emergency
 800/722-5660 In Oklahoma
 918/493-4347 Out Cont. US

GENERIC NAME DATE REVISED: 10/19/87

DOT PROPER SHIPPING NAME UN/NA NUMBER
 FLAMMABLE LIQUID, N.O.S. UN 1993
 DOT HAZARD CLASS
 FLAMMABLE LIQUID

NFPA CLASSIFICATION: HEALTH:(2) FLAMMABILITY:(4) REACTIVITY:(1)
 SPECIFIC HAZARD:(N/AP)

DOT/CERCLA RQ: N/AP

2 - SUMMARY OF HAZARDS

DANGER

PHYSICAL HAZARDS: EXTREMELY FLAMMABLE LIQUID

ACUTE HEALTH EFFECTS: NO DATA FOUND; SUSPECT INHALATION HAZARD
 (SHORT-TERM) NO DATA FOUND; SUSPECT EYE CONTACT HAZARD
 NO DATA FOUND; SUSPECT SKIN IRRITATION HAZARD
 NO DATA FOUND; SUSPECT ASPIRATION HAZARD
 NO DATA ON SKIN ABSORPTION FOUND

CHRONIC HEALTH EFFECTS: NO INFORMATION IS AVAILABLE ON CHRONIC HEALTH
 (LONG-TERM) HAZARDS. HOWEVER, REPEATED SKIN CONTACT SHOULD
 BE AVOIDED AS THIS MATERIAL MAY CONTAIN POLY-
 NUCLEAR AROMATIC HYDROCARBONS (PNA'S) WHICH HAVE
 BEEN REPORTED TO INDUCE TUMORS IN LAB ANIMALS.
 SEE SUPPLEMENT.

3 - COMPONENTS

| COMPONENT NAME | CAS NUMBER | % COMPOSITION BY (WT.) |
|--|------------|------------------------|
| TRADE SECRET 5501-01# | | |
| TRADE SECRET 5501-02# | | |
| ISOPROPYL ALCOHOL | 67-63-0 | |
| *ETHYLENE GLYCOL | 107-21-1 | < 5 |
| *METHANOL | 67-56-1 | < 5 |
| HEAVY AROMATIC SOLVENT CARCINOGEN AS LISTED BY IARC | 64742-94-5 | |
| WATER | 7732-18-5 | |

* THIS IS A SARA SECTION 313 LISTED CHEMICAL

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT PH
 N/DA AP 6.5 TO 7.5
 FREEZING POINT DRY POINT
 N/DA N/DA

OFC(R) SC-303 SCALE/CORROSION INHIBITOR

MSDS ID: 6-005501

4 - PHYSICAL AND CHEMICAL DATA (continued)

| | |
|---|--|
| <p>SPECIFIC GRAVITY (H2O=1 AT 39.2F) AP .943 AT 60F</p> <p>VISCOSITY UNITS, TEMP. (BROOK) LT 100 77F</p> <p>VAPOR PRESSURE AP 27.4 MM HG AT 70F</p> <p>VAPOR SP GR (AIR=1 AT 60 - 90F) AP 1.3</p> <p>APPEARANCE AND ODOR DARK AMBER LIQUID, ALCOHOL ODOR</p> <p>CONDITIONS AND MATERIALS TO AVOID HEAT, SPARKS, OPEN FLAME STRONG OXIDIZERS</p> <p>HAZARDOUS DECOMPOSITION PRODUCTS INCOMPLETE COMBUSTION COULD PRODUCE CARBON MONOXIDE, CARBON DIOXIDE, AND OXIDES OR COMPOUNDS OF SULFUR AND NITROGEN</p> | <p>VOLATILE CHARACTERISTICS APPRECIABLE</p> <p>SOLUBILITY IN WATER APPRECIABLE</p> <p>STABILITY STABLE</p> <p>HAZARDOUS POLYMERIZATION NOT EXPECTED TO OCCUR</p> |
|---|--|

5 - OCCUPATIONAL EXPOSURE LIMITS

| SUBSTANCE | SOURCE | DATE | TYPE | VALUE | TIME |
|-------------------------|--------|------|---------|---------|--------|
| ISOPROPANOL | OSHA | 1971 | PEL | 400 PPM | 8 HRS |
| | ACGIH | 1987 | TWA | 400 PPM | 8 HRS |
| | | | STEL | 500 PPM | 15 MIN |
| ETHYLENE GLYCOL (VAPOR) | ACGIH | 1987 | CEILING | 50 PPM | |
| | | | | | |
| METHANOL | OSHA | 1971 | PEL | 200 PPM | 8 HRS |
| | ACGIH | 1987 | TWA | 200 PPM | 8 HRS |
| | | | STEL | 250 PPM | 15 MIN |

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(TCC)
AP 53F

AUTOIGNITION TEMP. METHOD=
N/DA

FLAMMABLE LIMITS (% VOLUME IN AIR)
LOWER: N/DA UPPER: N/DA

FIRE AND EXPLOSION HAZARDS
RELEASES FLAMMABLE VAPORS BELOW NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. VAPORS MAY BE HEAVIER THAN AIR, MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. DILUTING WITH WATER MAY NOT SUFFICE TO RAISE FLASH POINT ABOVE AMBIENT TEMPERATURES.

EXTINGUISHING MEDIA
DRY CHEMICAL
CO2
FOAM
USE WATER SPRAY/WATER FOG FOR COOLING

SPECIAL FIREFIGHTING PROCEDURES
DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. WATER MAY BE INEFFECTIVE IN FIREFIGHTING DUE TO LOW FLASH POINT. USE WATER SPRAY/FOG FOR COOLING. EVEN IF MATERIAL IS WATER SOLUBLE, MAY NOT BE PRACTICAL TO EXTINGUISH FIRE BY WATER DILUTION. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

OFC(R) SC-303 SCALE/CORROSION INHIBITOR
MSDS ID: 6-005501

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.

EYE CONTACT -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE SEVERE EYE IRRITATION.

SKIN ABSORPTION

NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST.

SKIN IRRITATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SEVERE SKIN IRRITANT.

INGESTION

NO DATA AVAILABLE. INGESTION OF THIS MATERIAL MAY RESULT IN ASPIRATION INTO THE LUNGS CAUSING CHEMICAL PNEUMONIA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

THIS MATERIAL OR ITS EMISSIONS MAY CAUSE DAMAGE TO KIDNEY AND LIVER AND/OR AGGRAVATE EXISTING DISORDERS.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE AS SPECIFIED IN THE NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

EYE PROTECTION

EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.

SKIN PROTECTION

IMPERVIOUS PROTECTIVE SUIT WITH GLOVES, BOOTS, AND FULL HEAD AND FACE PROTECTION MUST BE WORN. THE EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

BOTH LOCAL EXHAUST AND GENERAL ROOM VENTILATION ARE USUALLY REQUIRED.

OTHER HYGIENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST. OBTAIN EMERGENCY MEDICAL ATTENTION.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EMERGENCY MEDICAL TREATMENT PROCEDURES

VIGOROUS ANTI-INFLAMMATORY/STEROID TREATMENT MAY BE REQUIRED AT FIRST EVIDENCE OF PULMONARY/UPPER AIRWAY EDEMA.

IF SWALLOWED, DO NOT INDUCE VOMITING. GASTRIC LAVAGE AND CATHARTIC

OFC(R) SC-303 SCALE/CORROSION INHIBITOR
MSDS ID: 6-005501

9 - EMERGENCY AND FIRST AID (continued)

INDICATED.

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED
EXTREMELY FLAMMABLE LIQUID. RELEASE CAUSES IMMEDIATE FIRE/EXPLOSION HAZARD. EXTINGUISH ALL IGNITION SOURCES. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, MAY BIODEGRADE. CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS
CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIALLY LOW FLASH POINT (SEE 40 CFR 261 AND 29 CFR 1910). LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS IN SYSTEMS COMPATIBLE WITH WATER SOLUBLE WASTES. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES
STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, SPARKS, OPEN FLAME, STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORE DRUMS WITH BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. CONTAINERS MUST BE GROUNDED BEFORE BEGINNING TRANSFER. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. HANDLE "EMPTY" CONTAINERS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE. VAPOR SPACE ABOVE LIQUID MAY BE FLAMMABLE/EXPLOSIVE UNLESS BLANKETED WITH INERT GAS.

DECONTAMINATION PROCEDURES
WHEN CLEANING OR REPAIRING EQUIPMENT CONTAMINATED WITH THIS MATERIAL, TOTAL-ENCAPSULATING IMPERVIOUS PROTECTIVE SUITS, GLOVES, AND BOOTS SHOULD BE WORN TO PREVENT ANY CONTACT. A POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS AND/OR A SUPPLIED AIR RESPIRATOR SHOULD BE USED.

12 - LABEL INFORMATION

USE STATEMENT
FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD
DANGER

PHYSICAL HAZARDS
EXTREMELY FLAMMABLE

HEALTH HAZARDS
INHALATION HAZARD
SEVERE SKIN AND EYE IRRITANT
HIGH INGESTION HAZARD-CHEMICAL PNEUMONIA
SIMILAR MATERIAL INDUCES TUMORS IN LAB ANIMALS

PRECAUTIONARY MEASURES
DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.
KEEP CONTAINER CLOSED WHEN NOT IN USE.
DO NOT GET IN EYES.
AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.
AVOID CONTACT WITH SKIN.
USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.
PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.
WASH THOROUGHLY AFTER HANDLING.
DO NOT TASTE/SWALLOW.
DO NOT TAKE INTERNALLY.

OFC(R) SC-303 SCALE/CORROSION INHIBITOR

MSDS ID: 6-005501

13 - SUPPLEMENT

HEALTH HAZARDS - SECTIONS 2 AND 7

REGARDING POTENTIAL CHRONIC HEALTH HAZARDS WHICH MAY RESULT FROM LONG-TERM, REPEATED CONTACT, THIS MATERIAL MAY CONTAIN POLYNUCLEAR AROMATIC HYDROCARBONS (PNA'S). STUDIES HAVE SHOWN THAT THE REPEATED PAINTING OF PNA'S ON THE SKIN OF EXPERIMENTAL ANIMALS OVER A SUSTAINED PERIOD RESULTS IN THE INDUCTION OF TUMORS. INDIVIDUALS SHOULD AVOID SKIN CONTACT AND SHOULD WASH AFFECTED AREAS IMMEDIATELY IF CONTACT OCCURS.

ISOPROPANOL HAS BEEN REPORTED IN ONE ANIMAL STUDY TO BE FETOTOXIC AT LEVELS OF 2.5% IN DRINKING WATER. NO TERATOGENIC EFFECTS WERE, OR HAVE BEEN, REPORTED. THERE ARE NO REPORTS OF ADVERSE REPRODUCTIVE EFFECTS IN HUMANS EXPOSED TO THIS CHEMICAL.

THIS PRODUCT CONTAINS ETHYLENE GLYCOL, WHICH WHEN INGESTED (AND APPROPRIATE THERAPEUTIC MEASURES ARE NOT TAKEN WITHIN A FEW HOURS), MAY CAUSE DAMAGE MAINLY TO KIDNEYS BUT ALSO TO LIVER AND BRAIN. IN THE WORKPLACE, INGESTION IS NOT A NORMAL ROUTE OF EXPOSURE TO ETHYLENE GLYCOL. THUS, ETHYLENE GLYCOL HAS BEEN USED FOR MANY YEARS IN THE WORKPLACE WITHOUT SERIOUS ADVERSE HEALTH EFFECTS.

THIS MATERIAL CONTAINS METHANOL, WHICH WHEN INGESTED, HAS CAUSED ACIDOSIS, OCULAR TOXICITY RANGING FROM DIMINISHED VISUAL CAPACITY TO COMPLETE BLINDNESS, AND DEATH.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

| | |
|--------------------------|---------------------------------------|
| EQ = EQUAL | AP = APPROXIMATELY |
| LT = LESS THAN | GT = GREATER THAN |
| TR = TRACE | UK = UNKNOWN |
| N/AP = NOT APPLICABLE | N/P = NO APPLICABLE INFORMATION FOUND |
| N/DA = NO DATA AVAILABLE | |

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

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Printed 03-21-1995

MATERIAL SAFETY DATA SHEET

Page 1

IRONOX(R) CT-905B

Product Code 2-2-0

IRONOX is a registered trademark of Baker Performance Chemicals Incorporated
MSDS ID: 9657017

1 - SECTION I - IDENTITY

BAKER PERFORMANCE CHEMICALS, INC.
A Baker Hughes Company
3920 ESSEX LANE, P.O. BOX 27714
HOUSTON, TX 77227-7714

EMERGENCY TELEPHONE NUMBERS:
CHEMTREC: 1-800-424-9300
800-231-3606
TELEPHONE NUMBER FOR INFORMATION:
713-599-7400

CHEMICAL NAME: Chemical Identity
Is A Trade Secret

CHEMICAL FAMILY: Proprietary

2 - SECTION II - REGULATORY CLASSIFICATION

ENVIRONMENTAL

RQ= 3622 Gallons
(Methanol)
TPQ= None

SARA 313: Yes
Methanol <17%

OCCUPATIONAL

OSHA Non-Hazardous: No

OSHA Hazardous: Yes
X Acute
NA Chronic
X Fire
NA Pressure
NA Reactive

TRANSPORTATION

Not Regulated: No

Regulated: Yes
Flammable Liquid,
N.O.S., (Contains
Methanol), 3, UN 1993
III

The components of this product are listed on the TSCA inventory.

3 - SECTION III - HAZARDOUS INGREDIENTS

| HAZARDOUS COMPONENT | CAS # | PEL(OSHA)* | | | TLV(ACGIH)* | | MFG* REC, TWA |
|------------------------|---------|------------|------|-----|-------------|------|---------------|
| | | TWA | STEL | A/L | TWA | STEL | |
| Methanol (Skin) (<17%) | 67-56-1 | 200 | 250 | | 200 | 250 | |

*ppm unless otherwise indicated; (C) denotes ceiling limit

4 - SECTION IV - PHYSICAL & CHEMICAL PROPERTIES

Specific Gravity @60F: 0.975
(H2O=1)

pH: 4.5 - 5.5 (Neat)
5% of Product;

Density (lbs/gallon): 8.12

Viscosity (Method): Not Determined

Vapor Density (Air=1): >1

Appearance and Odor: Clear light amber liquid with strong sweet odor.

Solubility: Water & brine soluble;
oil soluble

Stability: Stable

Freezing Point: Not Determined

Pour Point: 0F

Flash Point (Method): 110F (TCC)

Percent Organic Compound: Proprietary

Boiling Point: Not Determined

Conditions to Avoid: Oxidizers; heat,
sparks, or open flame

Vapor Pressure: Not Determined

HAZ. Decomp. Prod.: Carbon monoxide; oxides of nitrogen and HCl.

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MATERIAL SAFETY DATA SHEET

Page 2

RONOX(R) CT-9058

Caution Code 2-2-0

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10: 9657017

4 - SECTION IV - PHYSICAL & CHEMICAL PROPERTIES (continued)

Hazardous Polymerization: Will not occur

FIRE CONTROL PROCEDURES: Use foam, dry chemical, CO2, water fog or spray. Do not enter a fire area without proper protective equipment, including NIOSH/MSHA approved, self-contained breathing apparatus. Cool exposed containers with water spray. Avoid vapors.

FIRE HAZARDS:

Flammable Liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Vapors can travel to source of ignition and flash back. Never use welding or cutting torch on or near drums, even when empty. Explosion may result. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may form explosive mixture with air.

5 - SECTION V - HEALTH HAZARDS

EFFECTS OF OVEREXPOSURE:

INHALATION: Prolonged or excessive inhalation may cause respiratory tract irritation.
EYE CONTACT: Heavy exposure may cause irritation of the eyes.
SKIN CONTACT: Prolonged or repeated exposure may cause skin irritation.
INGESTION: Substance may be harmful if swallowed.
SKIN ABSORPTION: Harmful if absorbed through the skin.

OTHER INFORMATION:

Methanol is a component of this product and is poisonous by inhalation, skin absorption, and ingestion. Brief contact with the skin may produce mild skin irritation and drying of the skin which can produce dermatitis. Symptoms from prolonged skin contact or inhalation of vapors or mists include headache, dizziness, nausea, vomiting, weakness, vertigo, chills, shooting pains in the extremities, gastric pain, insomnia, acidosis, formic acid in the urine, and eye effects including blindness due to destruction of the optic nerve, coma, and death. Brief eye contact may produce irritation, tearing, or burning of the eye. Ingestion may produce mental sluggishness, nausea, vomiting, eye effects including destruction of the optic nerve (which will impair vision), stomach pain, acidosis, coma, and death. Some symptoms may be delayed from 12 to 18 hours after exposure.

Toxicity Data:

Oral human LDLo = 143 & 428 mg/kg (RTECS)
Oral rat LD50 = 5,628 mg/kg (RTECS)
Inhalation rat LC50 = 64,000 ppm/4 Hr (RTECS)
Skin rabbit LD50 = 15,800 mg/kg (RTECS)

Standard Draize Testing

Skin Rabbit - 20 mg/24 hours - Reaction - Moderate (RTECS)
Eye Rabbit - 40 mg - Reaction - Moderate (RTECS)

TARGET ORGANS (29 CFR 1910.1200-APPENDIX A):

Eye Hazard
Cutaneous Hazard (Skin)
Pulmonary Agent (Lungs)

SECTION VI - EMERGENCY & FIRST AID PROCEDURES

EYE CONTACT: Hold eyelids apart and flush eyes with plenty of water for at

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Caution Code 2-2-0

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6 - SECTION VI - EMERGENCY & FIRST AID PROCEDURES (continued)

at least 15 minutes.
INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
SKIN CONTACT: Remove all contaminated clothing, flush skin with water for 10 minutes. Afterwards, wash the affected area with soap and water and then rinse.
INGESTION: Do not induce vomiting, seek medical attention immediately.

7 - SECTION VII - PROTECTIVE EQUIPMENT RECOMMENDATIONS

VENTILATION: The use of mechanical ventilation is recommended whenever this product is used in a confined space, is heated above ambient temperatures, or is agitated. Where engineering controls are not feasible, assure use is in an area where there is natural air movement.

| RESPIRATORY | CHEMICAL RESISTANT APPAREL | EYE/FACE |
|-------------------------|----------------------------|-------------------|
| X As Needed | X CPE Gloves | X Chemical Splash |
| Air Supplied (SCBA) | Tyvek Polyethylene | Goggles |
| X Air Purifying | Suits | Full Face Shield |
| X Full Face Piece | Neoprene Boots | |
| Half Face Piece | | |
| X Cartridge or Canister | | |
| Acid Gas | | |
| X Organic Vapor | | |
| Ammonia | | |

Under normal operating conditions, no excursions above the regulated (recommended) exposure levels should occur. However, if used at elevated temperatures, lower atmospheric pressure (high altitudes) or any other physical conditions that may increase the inhalation exposure, respiratory protective equipment as described above, should be worn. Also, due to individual susceptibility and sensitivity, before respirators are used, a full medical evaluation should be performed per 29 CFR 1910.134(b)(10).

A thorough review of the job task (job safety analysis) by a competent safety professional should be conducted to determine the appropriate level of protection. See 29 CFR 1910, Subpart I and 29 CFR 1910.133 for further information.

SECTION VIII - SPILL & LEAK PROCEDURES

Don appropriate protective clothing and respiratory protection prior to entering a spill/leak area. Eliminate ignition sources. Approach area upwind if possible. Shut off leak if it can be done safely. Dike and pump large spills into salvage containers. Soak up residue and small spills with absorbent clay, sand, or dirt and place in salvage containers. If RQ (reportable quantity) is exceeded, report to National Spill Response Office 1-800-424-8802. Also, in some jurisdictions, spills or leaks of any hazardous materials are reportable--consult local lead agencies for further information. Continue to observe precautions.

WASTE DISPOSAL METHOD(S): Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures and processes may change the classification to non-hazardous, or hazardous for reasons other than, or in addition to product characteristics.

Printed 03-21-1995

MATERIAL SAFETY DATA SHEET

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TRONOX(R) CT-9058

Classification Code 2-2-0

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MSDS ID: 9657017

8 - SECTION VIII - SPILL & LEAK PROCEDURES (continued)

Dispose of all waste and/or containers in accordance with federal, state and local regulations.

REQUIREMENTS FOR TRANSPORTATION, HANDLING AND STORAGE: Transport, handle and store in accordance with OSHA Regulation 1910.106 and applicable DOT regulations.

Avoid inhalation of vapors or mists. Do not get in eyes, on skin or on clothing. Keep container closed when not in use. Wear suitable protection for eyes and skin when handling. Use with adequate ventilation. Avoid contact with oxidizers. Store in well-ventilated area. Store in cool, dry area. Control ignition source; keep away from heat, sparks and open flame.

NOTE: The information on this MSDS is based on data which is considered to be accurate. BPCI, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This MSDS was prepared and is to be used for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

By: Jack Lowell Date: 10/12/94 Supercedes: 09/05/94
Regulatory Information Specialist

10/12/94 - Changes to Sections II, III, V, & VII.

UNOCAL CHEMICALS DIVISION
PETROCHEMICALS GROUPProduct Name: XYLENE
Product Code No: 11420Page 1 of 5
Issue Date: 3/21/89

| | |
|--|---|
| MANUFACTURER: UNOCAL CHEMICALS DIVISION UNION OIL COMPANY OF CALIFORNIA 1345 N. MEACHAM SCHAUMBURG, ILLINOIS 60196 CONTACT FOR FURTHER INFORMATION: MSDS COORDINATOR (312) 619-2644 | Transportation Emergencies: Call CHEMTREC (800) 424-9300 Cont. U.S. (202) 483-7616 (Collect) from Alaska & Hawaii Health Emergencies: CALL LOS ANGELES POISON INFORMATION CENTER (24 hrs.) 1-(800)-356-3129 |
|--|---|

PRODUCT IDENTIFICATION

PRODUCT NAME: XYLENE

SYNONYMS: AMSCO SOLV 1420
DIMETHYL BENZENE
XYLOL

GENERIC NAME: VOLATILE SOLVENT

CHEMICAL FAMILY: AROMATIC HYDROCARBON

DOT PROPER SHIPPING NAME: XYLENE

ID NUMBER: UN1307

HAZARD CLASSIFICATION: FLAMMABLE LIQUID

CAS NUMBER: 1330-20-7

| SECTION I - HAZARDOUS INGREDIENTS/EXPOSURE LIMITS | CAS,NO | LIMITS | UNITS | AGENCY | TYPE |
|---|-----------|----------|-------|----------|-------|
| XYLENE | 1330-20-7 | 100.0000 | PPM | ACGIH | TWA |
| | | 150.0000 | PPM | ACGIH | STEL |
| | | 100.0000 | PPM | OSHA | TWA |
| | | 300.0000 | PPM | CAL OSHA | CEIL |
| | | 200.0000 | PPM | CAL OSHA | EXCUR |
| ETHYL BENZENE | 100-41-4 | 100.0000 | PPM | ACGIH | TWA |
| | | 125.0000 | PPM | ACGIH | STEL |
| | | 100.0000 | PPM | OSHA | TWA |
| | | 125.0000 | PPM | OSHA | STEL |

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA 313 AND 40 CFR 372:

XYLENE CAS# 1330-20-7 99-100 WT%

SECTION II - EMERGENCY AND FIRST AID PROCEDURES

EMERGENCY

Have physician call LOS ANGELES POISON
INFORMATION CENTER (24 hrs.) (800) 356-3129E CONTACT:

MOVE VICTIM AWAY FROM EXPOSURE AND INTO FRESH AIR. IF IRRITATION OR REDNESS DEVELOPS, FLUSH EYES WITH CLEAN WATER AND SEEK MEDICAL ATTENTION. FOR DIRECT CONTACT, HOLD EYELIDS APART AND FLUSH THE AFFECTED EYE(S) WITH CLEAN WATER FOR AT LEAST 15 MINUTES. SEEK MEDICAL ATTENTION.

SKIN CONTACT:

REMOVE CONTAMINATED SHOES AND CLOTHING AND CLEANSE AFFECTED AREA(S) THOROUGHLY BY WASHING WITH MILD SOAP AND WATER. IF IRRITATION OR REDNESS DEVELOPS AND PERSISTS, SEEK MEDICAL ATTENTION.

INHALATION (BREATHING):

IF RESPIRATORY SYMPTOMS OR OTHER SYMPTOMS OF EXPOSURE DEVELOP, MOVE VICTIM AWAY FROM SOURCE OF EXPOSURE AND INTO FRESH AIR. IF SYMPTOMS PERSIST, SEEK IMMEDIATE MEDICAL ATTENTION. IF VICTIM IS NOT BREATHING, IMMEDIATELY BEGIN ARTIFICIAL RESPIRATION. IF BREATHING DIFFICULTIES DEVELOP, OXYGEN SHOULD BE ADMINISTERED BY QUALIFIED PERSONNEL. SEEK IMMEDIATE MEDICAL ATTENTION.

INGESTION (SWALLOWING):

ASPIRATION HAZARD: DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH BECAUSE THIS MATERIAL CAN ENTER THE LUNGS AND CAUSE SEVERE LUNG DAMAGE. IF VICTIM IS DROWSY OR UNCONSCIOUS, PLACE ON THE LEFT SIDE WITH THE HEAD DOWN. IF POSSIBLE, DO NOT LEAVE VICTIM UNATTENDED. SEEK MEDICAL ATTENTION.

SECTION III - HEALTH HAZARDS/ROUTES OF ENTRY

EYE CONTACT:

THIS MATERIAL IS AN EYE IRRITANT. DIRECT CONTACT WITH THE LIQUID OR EXPOSURE TO VAPORS OR MISTS MAY CAUSE STINGING, TEARING, REDNESS AND SWELLING.

SKIN CONTACT:

THIS MATERIAL MAY CAUSE SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY CAUSE REDNESS, BURNING, AND DRYING AND CRACKING OF THE SKIN. NO HARMFUL EFFECTS HAVE BEEN DEMONSTRATED IN SKIN ABSORPTION STUDIES. PERSONS WITH PRE-EXISTING SKIN DISORDERS MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS MATERIAL.

INHALATION (BREATHING):

WHILE THIS MATERIAL HAS A LOW DEGREE OF TOXICITY, BREATHING HIGH CONCENTRATIONS OF VAPORS OR MISTS MAY CAUSE IRRITATION OF THE NOSE AND THROAT, AND SIGNS OF NERVOUS SYSTEM DEPRESSION (E.G., DROWSINESS, DIZZINESS, LOSS OF COORDINATION AND FATIGUE). RESPIRATORY SYMPTOMS ASSOCIATED WITH PRE-EXISTING LUNG DISORDERS (E.G., ASTHMA-LIKE CONDITIONS) MAY BE AGGRAVATED BY EXPOSURE TO THIS MATERIAL.

INGESTION:

WHILE THIS MATERIAL HAS A LOW DEGREE OF TOXICITY, INGESTION OF EXCESSIVE QUANTITIES MAY CAUSE IRRITATION OF THE DIGESTIVE TRACT, AND SIGNS OF NERVOUS SYSTEM DEPRESSION (E.G., DROWSINESS, DIZZINESS, LOSS OF COORDINATION AND FATIGUE). ASPIRATION HAZARD - THIS MATERIAL CAN ENTER LUNGS DURING SWALLOWING OR VOMITING AND CAUSE LUNG INFLAMMATION AND DAMAGE.

SECTION III - HEALTH HAZARDS/ROUTES OF ENTRY

MENTS:

THIS MATERIAL HAS NOT BEEN IDENTIFIED AS A CARCINOGEN BY NTP, IARC OR OSHA. REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE (SOMETIMES REFERRED TO AS SOLVENT OR PAINTERS' SYNDROME). INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AN INHALING THIS PRODUCT MAY BE HARMFUL OR FATAL.

SECTION IV - SPECIAL PROTECTION INFORMATION

VENTILATION:

IF CURRENT VENTILATION PRACTICES ARE NOT ADEQUATE TO MAINTAIN AIRBORNE CONCENTRATIONS BELOW THE ESTABLISHED EXPOSURE LIMITS (SEE SECTION I), ADDITIONAL VENTILATION OR EXHAUST SYSTEMS MAY BE REQUIRED. WHERE EXPLOSIVE MIXTURES MAY BE PRESENT, SYSTEMS SAFE FOR SUCH LOCATIONS MUST BE USED.

RESPIRATORY PROTECTION:

THE USE OF RESPIRATORY PROTECTION IS ADVISED WHEN CONCENTRATIONS EXCEED THE ESTABLISHED EXPOSURE LIMITS (SEE SECTION I). DEPENDING ON THE AIRBORNE CONCENTRATION, USE A RESPIRATOR OR GAS MASK WITH APPROPRIATE CARTRIDGES AND CANNISTERS (NIOSH APPROVED, IF AVAILABLE) OR SUPPLIED AIR EQUIPMENT.

PROTECTIVE GLOVES:

THE USE OF GLOVES IMPERMEABLE TO THE SPECIFIC MATERIAL HANDLED IS ADVISED TO PREVENT SKIN CONTACT AND POSSIBLE IRRITATION.

EYE PROTECTION:

APPROVED EYE PROTECTION TO SAFEGUARD AGAINST POTENTIAL EYE CONTACT, IRRITATION OR INJURY IS RECOMMENDED.

OTHER PROTECTIVE EQUIPMENT:

IT IS SUGGESTED THAT A SOURCE OF CLEAN WATER BE AVAILABLE IN WORK AREA FOR FLUSHING EYES AND SKIN. IMPERVIOUS CLOTHING SHOULD BE WORN AS NEEDED.

SECTION V - REACTIVITY DATA

STABILITY:

STABLE

INCOMPATIBILITY (MATERIALS TO AVOID):

THIS PRODUCT IS INCOMPATIBLE WITH STRONG ACIDS OR BASES, OXIDIZING AGENTS AND SELECTED AMINES.

HAZARDOUS DECOMPOSITION PRODUCTS:

COMBUSTION MAY YIELD CARBON MONOXIDE AND/OR CARBON DIOXIDE.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

SECTION VI - SPILL OR LEAK PROCEDURES

HIGHWAY OR RAILWAY SPILLS
Call CHEMTREC (800) 424-9300 Cont. U.S.
(Collect) (202) 483-7616 from Alaska & Hawaii

CAUTIONS IN CASE OF RELEASE OR SPILL:

STAY UPWIND AND AWAY FROM SPILL. KEEP ALL SOURCES OF IGNITION AWAY FROM SPILL. IF SPILL IS INDOORS, VENTILATE AREA OF SPILL. FOAM, ESPECIALLY HIGH EXPANSION FOAM, MAY BE USED TO SUPPRESS VAPORS. KEEP OUT OF DRAINS, SEWERS OR WATERWAYS. USE SAND OR OTHER INERT MATERIAL TO DAM AND CONTAIN SPILL. DO NOT FLUSH AREA WITH WATER. FOR SMALL SPILLS, DO NOT FLUSH WITH WATER; USE ABSORBANT PADS. CONTACT FIRE AUTHORITIES AND APPROPRIATE FEDERAL, STATE OR LOCAL AGENCIES. IF SPILL IN EXCESS OF EPA REPORTABLE QUANTITY IS MADE INTO THE ENVIRONMENT, IMMEDIATELY NOTIFY THE NATIONAL RESPONSE CENTER (PHONE NUMBER: 800-424-8802).

WASTE DISPOSAL METHOD:

DISPOSE OF PRODUCT IN ACCORDANCE WITH LOCAL, COUNTY, STATE, AND FEDERAL REGULATIONS.

SECTION VII - STORAGE AND SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS:

KEEP CONTAINERS TIGHTLY CLOSED. KEEP CONTAINERS COOL, DRY, AND AWAY FROM SOURCES OF IGNITION. USE AND STORE THIS PRODUCT WITH ADEQUATE VENTILATION. AVOID INHALATION OF VAPORS AND PERSONAL CONTACT WITH THE PRODUCT. USE GOOD PERSONAL HYGIENE PRACTICE. "EMPTY" CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOR) AND CAN BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. "EMPTY" DRUMS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED AND PROMPTLY SHIPPED TO THE SUPPLIER OR A DRUM RECONDITIONER. ALL OTHER CONTAINERS SHOULD BE DISPOSED OF IN AN ENVIRONMENTALLY SAFE MANNER AND IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS. BEFORE WORKING ON OR IN TANKS WHICH CONTAIN OR HAVE CONTAINED THIS PRODUCT, REFER TO OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ANSI Z39.1, AND OTHER GOVERNMENTAL AND INDUSTRIAL REFERENCES PERTAINING TO CLEANING, REPAIRING, WELDING, OR OTHER CONTEMPLATED OPERATIONS.

SECTION VIII - FIRE AND EXPLOSION HAZARD DATA

HAZARD RANKING

| | | | | |
|--------|------------------|--------------|--------|-------------|
| NFPA | HEALTH HAZARD: 2 | 0 = LEAST | HMS | HEALTH: 2 * |
| HAZARD | FLAMMABILITY: 3 | 1 = SLIGHT | HAZARD | FLAM: 3 |
| CLASS | REACTIVITY: 0 | 2 = MODERATE | CLASS | REACT: 0 |
| | OTHER: - | 3 = HIGH | | P.P.E.: - |
| | | 4 = EXTREME | | |

LOWER EXPLOSIVE LIMIT (% VOL.)

1.0

UPPER EXPLOSIVE LIMIT (% VOL.)

7.0

FLASH POINT

81, TCC F

EXTINGUISHING MEDIA:

SMALL FIRES: EXTINGUISH WITH DRY CHEMICAL, CO2 OR FOAM. LARGE FIRES: THE USE OF DRY CHEMICAL OR FOAM IS RECOMMENDED. WATER MAY BE AN INEFFECTIVE EXTINGUISHING AGENT.

SECTION VIII - FIRE AND EXPLOSION HAZARD DATA

RE & EXPLOSION HAZARDS:

THIS MATERIAL IS FLAMMABLE AND MAY BE IGNITED BY HEAT, SPARKS, FLAME OR STATIC ELECTRICITY.

FIRE FIGHTING PROCEDURES:

THE USE OF A SCBA IS RECOMMENDED FOR FIRE FIGHTERS. WATER SPRAY MAY BE USEFUL IN MINIMIZING VAPORS AND COOLING CONTAINERS EXPOSED TO HEAT AND FLAME. AVOID SPREADING BURNING LIQUID WITH WATER USED FOR COOLING PURPOSES.

SECTION IX - PHYSICAL DATA

| <u>APPROX. BOILING POINT</u> | <u>VAPOR DENSITY (AIR = 1)</u> | <u>VAPOR PRESSURE</u> |
|---|--------------------------------|------------------------------|
| 282 TO 286 F | 3.7 | 6.6 MM HG @ 20C |
| <u>EVAPORATION RATE (N-BUTYL ACETATE = 1)</u> | <u>% VOLATILE</u> | <u>% SOLUBILITY IN WATER</u> |
| 0.80 | 100% | NEGLIGIBLE (< 5%) |
| <u>SPECIFIC GRAVITY (TEMP/TEMP)</u> | <u>APPEARANCE</u> | <u>ODOR</u> |
| 0.870 (60F/60F) | CLEAR, LITTLE IF ANY COLOR | CHARACTERISTIC |

SECTION XI - DOCUMENTARY INFORMATION

ISSUE DATE: 3/21/89 PRODUCT CODE NO. 11420
REV. DATE: 1/13/89 PREV. PROD. CODE NO. 1420
MSDS NO: 6314 PREV. MSDS NO: 864

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

The information in this document is believed to be correct as of the date issued. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

CLEANLINK CL-9405 INDUSTRIAL CLEANER

MSDS TO: 6-010654

1 - GENERAL INFORMATION

800/424-9300 ChemTred
800/444-8969 Emergency
910/245-2224 Information

GENERIC NAME: OXYALKYLATED PHENOL
DOT PROPER SHIPPING NAME: COMBUSTIBLE LIQUID, N.O.S.
DOT HAZARD CLASS: COMBUSTIBLE LIQUID

DATE REVISED: 8-11-89

UN/NA NUMBER: NA 1993

NFPA CLASSIFICATION: HEALTH:(1) FLAMMABILITY:(2) REACTIVITY:(0)
SPECIFIC HAZARD:(N/A)
DOT/CERCLA RQ: NONE

2 - SUMMARY OF HAZARDS

CAUTION
PHYSICAL HAZARDS: MODERATELY COMBUSTIBLE
ACUTE HEALTH HAZARDS: NO DATA FOUND; SUSPECT MODERATE EYE IRRITANT
CHRONIC HEALTH HAZARDS: NO DATA IS AVAILABLE WITH WHICH TO ESTIMATE POSSIBLE TOXICITY FROM LONG-TERM CONTACT WITH THIS PRODUCT

3 - COMPONENTS

COMPONENT NAME CAS NUMBER % COMPOSITION BY (WT.)
TRADE SECRET 10654-01#
TRADE SECRET 10654-02#
TRADE SECRET 10654-03#
WATER

THIS PRODUCT CONTAINS NO SUBS SECTION 313 LISTED CHEMICAL(S)

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT: N/A
FREEZING POINT: N/A
SPECIFIC GRAVITY (H2O=1 AT 39.2F): AP 0.992
VISCOSITY UNITS, TEMP.: N/DA
VAPOR PRESSURE: LY 17.3 MM HG AT 70F
VAPOR SP GR (AIR=1 AT 60 - 90F): 0.6
APPEARANCE AND ODOR: BLUE VIOLET LIQUID - NO DISTINCT ODOR
CONDITIONS AND MATERIALS TO AVOID: HEAT AND OPEN FLAME; STRONG OXIDIZING AGENTS; STRONG ALKALIES
PH: 8 TO 9
DRY POINT: N/A
VOLATILE CHARACTERISTICS: NEGLIGIBLE
SOLUBILITY IN WATER: COMPLETE
STABILITY: STABLE
HAZARDOUS POLYMERIZATION: NOT EXPECTED TO OCCUR



CLEANLINK CL-9405 INDUSTRIAL CLEANER
 MSDS ID: 6-010654

4 - PHYSICAL AND CHEMICAL DATA (continued)

HAZARDOUS DECOMPOSITION PRODUCTS
 INCOMPLETE COMBUSTION MAY PRODUCE CARBON MONOXIDE AND/OR CARBON DIOXIDE

5 - OCCUPATIONAL EXPOSURE LIMITS

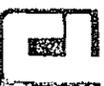
| SUBSTANCE | SOURCE | DATE | TYPE | VALUE | TIME |
|--------------------------|--------|------|------|-------|------|
| NO ESTABLISHED STANDARDS | | | | | |

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=
 GT 140F
 AUTOIGNITION TEMP. METHOD=
 N/DA
 FLAMMABLE LIMITS (% VOLUME IN AIR)
 LOWER: N/DA
 UPPER: N/DA
 FIRE AND EXPLOSION HAZARDS
 HEAT FROM FIRE CAN GENERATE FLAMMABLE VAPOR. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. FINE SPRAYS/MISTS MAY BE COMBUSTIBLE AT TEMPERATURES BELOW NORMAL FLASH POINT.
 EXTINGUISHING MEDIA
 DRY CHEMICAL
 CO2
 WATER SPRAY
 FOAM
 WATER
 WATER FOG
 SPECIAL FIREFIGHTING PROCEDURES
 DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. POISONOUS GAS(ES) MAY BE GENERATED WITHOUT WARNING ON RELEASE FROM CONFINEMENT/HIGH TEMPERATURE DECOMPOSITION OR RUPTURE OF CLOSED CONTAINERS/WATER CONTACT, ALL OF WHICH WILL GREATLY INCREASE HAZARDS OF FIREFIGHTING. SEE SECTION 4-DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. NOTIFY AUTHORITIES IMMEDIATELY IF LIQUID ENTERS SEWER/PUBLIC WATERS.

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE
 INHALATION
 ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS NOT EXPECTED TO BE AN INHALATION HAZARD.
 EYE CONTACT -- PRIMARY ROUTE
 ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE EYE IRRITATION.
 SKIN ABSORPTION
 ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA IS KNOWN TO EXIST, THIS MATERIAL IS NOT EXPECTED TO BE A HEALTH HAZARD BY SKIN ABSORPTION.
 SKIN IRRITATION -- PRIMARY ROUTE
 ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SKIN IRRITANT.
 INGESTION
 ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INGESTION HAZARD.
 MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
 NO ADDITIONAL MEDICAL INFORMATION FOUND.



CLEANLINK CL-9406 INDUSTRIAL CLEANER
MSDS ID: 6-010654

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

NO OCCUPATIONAL EXPOSURE STANDARDS HAVE BEEN DEVELOPED FOR THIS MATERIAL. WHERE EXPOSURE THROUGH INHALATION MAY OCCUR FROM USE, NIOSH/MSHA APPROVED RESPIRATORY PROTECTION EQUIPMENT IS RECOMMENDED.

EYE PROTECTION

EYE PROTECTION SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE SHIELD MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING LIQUID, AIRBORNE PARTICLES, OR VAPOR. CONTACT LENSES SHOULD NOT BE WORN.

SKIN PROTECTION

DEPENDING ON THE CONDITIONS OF USE, PROTECTIVE GLOVES, APRON, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT SHOULD BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

LOCAL EXHAUST VENTILATION MAY BE REQUIRED IN ADDITION TO GENERAL ROOM VENTILATION.

OTHER HYGIENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

REMOVE VICTIM TO FRESH AIR IMMEDIATELY. OBTAIN EMERGENCY MEDICAL ATTENTION IF BREATHING DIFFICULTY PERSISTS BEYOND 15 MINUTES.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

REMOVE CONTAMINATED CLOTHING AS NEEDED. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST.

INGESTION

IF LARGE QUANTITY SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION.

EMERGENCY MEDICAL TREATMENT PROCEDURES

SEE THE MSDS FOR THE TREATMENT PROCEDURES FOR THIS MATERIAL.

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

MAY CONTAMINATE WATER SUPPLIES/POLLUTE PUBLIC WATERS. SLIPPERY - SPREAD GRANULAR COVER. ON WATER, MAY BIODEGRADE. CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS

COMPLY WITH FEDERAL/STATE/LOCAL REGULATIONS FOR DISPOSAL.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES

STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, SPARKS, OPEN FLAME, STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORE DRUMS WITH UNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. CONTAINERS MUST BE GROUNDED BEFORE BECOMING TRANSFER. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. HANDLE *EMPTY* CONTAINERS WITH CARE/VAPOR RESIDUE MAY BE PRESENT.

CLEANLINK CL-9405 INDUSTRIAL CLEANER
 MSDS ID: 6-010654

11 - ADDITIONAL PRECAUTIONS (continued)

DECONTAMINATION PROCEDURES

EMPTY CONTAINERS SHOULD BE THOROUGHLY RINSED WITH COPIOUS AMOUNTS OF CLEAN WATER. THE RINSE WATER CAN THEN BE USED FOR MAKEUP WATER FOR ANY NECESSARY DILUTION OF THE CONCENTRATED PRODUCT BEFORE USE, OR IT CAN BE PROPERLY DISCARDED.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY
 KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD

CAUTION

PHYSICAL HAZARDS

MODERATELY COMBUSTIBLE

HEALTH HAZARDS

MODERATE EYE IRRITANT

SKIN IRRITANT

SLIGHT INGESTION HAZARD

PRECAUTIONARY MEASURES

DO NOT GET IN EYES.

AVOID PROLONGED OR REPEATED CONTACT WITH SKIN.

PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.

WASH THOROUGHLY AFTER HANDLING.

DO NOT TASTE/SWALLOW.

13 - SUPPLEMENT

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

EQ = EQUAL

AP = APPROXIMATELY

LT = LESS THAN

GT = GREATER THAN

TR = TRACE

UK = UNKNOWN

N/AP = NOT APPLICABLE

N/P = NO APPLICABLE INFORMATION FOUND

N/DA = NO DATA AVAILABLE

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).



29

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

| | | |
|--|--------------------------------------|--|
| MANUFACTURER'S NAME FISHER-STEVENSON, INC. | | EMERGENCY TELEPHONE NO. 512-573-5619 |
| ADDRESS (Number, Street, City, State, and ZIP Code) 120 E. Constitution, Victoria, Texas 77902 | | |
| CHEMICAL NAME AND SYNONYMS SURFACTANT COMPOUND/AMINE SALT | TRADE NAME AND SYNONYMS PS | |
| CHEMICAL FAMILY AMINE SALT | FORMULA proprietary | |

SECTION II - HAZARDOUS INGREDIENTS

| PAINTS, PRESERVATIVES, & SOLVENTS | % | TLV (Units) | ALLOYS AND METALLIC COATINGS | % | TLV (Units) |
|---|---|-------------|--|---|-------------|
| PIGMENTS | | | BASE METAL | | |
| CATALYST | | | ALLOYS | | |
| VEHICLE | | | METALLIC COATINGS | | |
| SOLVENTS | | | FILLER METAL PLUS COATING OR CORE FLUX | | |
| ADDITIVES | | | OTHERS | | |
| OTHERS | | NA | | | NA |
| HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES | | | | % | TLV (Units) |
| NA | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SECTION III - PHYSICAL DATA

| | | | |
|---|------|---------------------------------------|------|
| BOILING POINT (°F.) | NA | SPECIFIC GRAVITY (H ₂ O=1) | 1.07 |
| VAPOR PRESSURE (mm Hg.) | NA | PERCENT VOLATILE BY VOLUME (%) | NA |
| VAPOR DENSITY (AIR=1) | NA | EVAPORATION RATE (_____ =1) | NA |
| SOLUBILITY IN WATER | 100% | | |
| APPEARANCE AND ODOR RED WAX LIKE /BLAND ODOR | | | |

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

| | | | | | |
|--|-------------------|------------------|-----------|-----|-----|
| FLASH POINT (Method used) | PPMC: +200 | FLAMMABLE LIMITS | NA | Lel | Uel |
| EXTINGUISHING MEDIA DRY CHEMICAL, WATERSPRAY, OR WATERFOG, CO2 FOAM, SAND, EARTH | | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES DO NOT ENTER WITHOUT PROPER PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS. | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS NONE | | | | | |

MATERIAL SAFETY DATA SHEET

30

VISLINK® VL-9362 VISCOSIFIERS

MSDS No.
HCRO08838

Rev. Date
09/12/86



CHEMLINK PETROLEUM, INC.
A DIVISION OF PONY INDUSTRIES
9100 W. 21ST STREET
SAND SPRINGS, OK 74063

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product

This product is covered by the OSHA Hazard Communication Rule and this document has been prepared in accord with the MSDS requirements of the rule

I. General

| | | | |
|--|---|--|--|
| Trade Name VISLINK VL-9362 VISCOSIFIERS | | Telephone Numbers EMERGENCY 800/424-9300 CHEMTREC 800/232-1616 EXT. 347 CUSTOMER SERVICE 918/245-2224 INFO ONLY | |
| Other Names N/P | | | |
| Chemical Family POLYACRYLAMIDE SOLUTION | DOT Hazardous Materials Proper Shipping Name NOT REGULATED, N.O.S. | | |
| Generic Name POLYACRYLAMIDE SOLUTION | DOT Hazard Class NOT REGULATED | | |
| CAS No. SEE SECTION IX | Company ID No. E000883800 | UN/NA ID No. N/AP | |

II. WARNING Summary of Hazards

| | |
|--|--|
| PHYSICAL HAZARDS: | SLIGHTLY COMBUSTIBLE LIQUID |
| ACUTE HEALTH EFFECTS: (SHORT TERM) | NO DATA FOUND; SUSPECT INHALATION HAZARD NO DATA FOUND; SUSPECT EYE CONTACT HAZARD NO DATA FOUND; SUSPECT SKIN IRRITATION HAZARD NO DATA FOUND; SUSPECT ASPIRATION HAZARD NO DATA ON SKIN ABSORPTION FOUND |
| CHRONIC HEALTH EFFECTS: (LONG TERM) | NO INFORMATION IS AVAILABLE ON THE CHRONIC HEALTH EFFECTS OF THIS PRODUCT. |

III. Fire and Explosion

| | | |
|--|---|---|
| Flash Point (Method) GT 200° F (TOC) | Autoignition Temperature (Method) N/DA | Flammable Limits (% Vol. in Air) Lower N/DA Upper N/DA |
| Fire and Explosion Hazards | WHILE NOT NORMALLY COMBUSTIBLE, IF WATER CONTENT IS LOST (AS IN A FIRE), MATERIAL MAY RELEASE FLAMMABLE VAPORS IF EXPOSED TO HIGH TEMPERATURE. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. | |
| Extinguishing Media | DRY CHEMICAL CO2 FOAM USE WATER SPRAY/ WATER FOG FOR COOLING | |
| Special Firefighting Procedures | DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE "DECOMPOSITION PRODUCTS POSSIBLE." FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. MAY BECOME COMBUSTIBLE FOLLOWING EVAPORATION OF NON-COMBUSTIBLE CARRIER. USE WATER SPRAY/FOG FOR COOLING. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS. | |

VII. Emergency and First Aid

| | |
|--|---|
| Inhalation | IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL. |
| Eye Contact | IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION. |
| Skin Contact | IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST. OBTAIN EMERGENCY MEDICAL ATTENTION. |
| Ingestion | IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL. |
| Emergency Medical Treatment Procedures | VIGOROUS ANTI-INFLAMMATORY/STEROID TREATMENT MAY BE REQUIRED AT FIRST EVIDENCE OF PULMONARY/UPPER AIRWAY EDEMA. IF SWALLOWED, DO NOT INDUCE VOMITING. GASTRIC LAVAGE AND CATHARTIC INDICATED. |

VIII. Spill and Disposal

| | |
|--|---|
| Precautions if Material is Spilled or Released | COMBUSTIBLE LIQUID. RELEASE CAN CAUSE FIRE OR EXPLOSION. LIQUID OR VAPOR MAY IGNITE. EVACUATE AND LIMIT ACCESS. EQUIP RESPONDERS WITH PROPER PROTECTION. EXTINGUISH ALL IGNITION SOURCES. STOP RELEASE. PREVENT FLOW TO SEWERS OR PUBLIC WATERS. NOTIFY FIRE AND/OR ENVIRONMENTAL AUTHORITIES. BLANKET WITH FIREFIGHTING FOAM. RESTRICT WATER USE FOR CLEANUP. IMPOUND AND RECOVER LARGE SPILL. SOAK UP SMALL SPILL WITH INERT SOLIDS. USE SUITABLE DISPOSAL CONTAINERS. ON WATER, MATERIAL IS SOLUBLE; MAY FLOAT OR SINK. CONTAIN; MINIMIZE DISPERSION; COLLECT. DISPERSE RESIDUE. REPORT PER REGULATORY REQUIREMENTS. |
| Waste Disposal Methods | CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIAL FOR EYE IRRITATION/WATER POLLUTION (SEE 40 CFR 261 AND 29 CFR 1910). LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS IN SYSTEMS COMPATIBLE WITH WATER SOLUBLE WASTES. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS. |

IX. Components (This may not be a complete list of components)

| Component Name | CAS No. | Carcinogen## | Composition amount (Wt.) (See Qualification on Page 4) |
|-----------------------|---------|--------------|---|
| TRADE SECRET 8838-01# | | N/AP | |

Specific Chemical Identity is a Trade Secret

Compositions given are typical values, not specifications.

##Listed By: 1 = NTP, 2 = IARC, 3 = OSHA, 4 = Other



VISLINK® VL-9362 VISCOSIFIERS

MSDS No.
HCRO0883
Rev. Date
09/12/86

XII.

Label Information

Manufacturer: CHEMLINK PETROLEUM, INC.
A DIVISION OF PONY INDUSTRIES
9100 W. 21ST STREET
SAND SPRINGS, OK 74063

Telephone Numbers
EMERGENCY
800/424-9300 CHEMTREC
800/232-1616 EXT. 347
CUSTOMER SERVICE
918/245-2224 INFO ONLY

Use Statement: FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

Signal Word: WARNING

Physical Hazards:
COMBUSTIBLE

Health Hazards:
INHALATION HAZARD
HIGH INGESTION HAZARD-CHEMICAL PNEUMONIA
SEVERE SKIN AND EYE IRRITANT

Precautionary Measures:
DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.
AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.
AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.
USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.
PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.
WASH THOROUGHLY AFTER HANDLING.
DO NOT TASTE/SWALLOW.
DO NOT TAKE INTERNALLY.

DOT Information:
UN/NA ID Number- N/AP
Hazard Class- NOT REGULATED
Proper Shipping- NOT REGULATED, N.O.S.

Instructions:
In case of fire, use- DRY CHEMICAL
CO2
FOAM

First Aid -Inhalation IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

-Eye Contact IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

-Skin Contact IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST. OBTAIN EMERGENCY MEDICAL ATTENTION.

-Ingestion IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

In case of spill, COMBUSTIBLE LIQUID. EXTINGUISH ALL IGNITION SOURCES. BLANKET WITH FIREFIGHTING FOAM. SOAK UP SMALL SPILL. ON WATER, CONTAIN/MINIMIZE DISPERSION, COLLECT. REPORT PER REGULATORY REQUIREMENTS.

Protective Equipment:
-Respiratory USE NIOSH/MSHA APPROVED AIR-PURIFYING OR SUPPLIED AIR RESPIRATOR AS APPROPRIATE.
-Eye BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD.
-Skin IMPERVIOUS PROTECTIVE SUIT PLUS IMPERVIOUS GLOVES, BOOTS, AND FULL HEAD/FACE PROTECTION.

MATERIAL SAFETY DATA SHEET

Printed 10-19-93

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INC-820 EMULSION BREAKER

1 - GENERAL INFORMATION

INTERCHEM, INC.

P. O. BOX 13166 79768
3803 MANKINS 79763
ODESSA, TX

24 hour emergency #
(915) 550-7027

GENERIC NAME: DEMULSIFIER
DOT PROPER SHIPPING NAME: FLAMMABLE LIQUID, N.O.S. (XYLENE, ISOPROPYL ALCOHOL)
DOT HAZARD CLASS: FLAMMABLE LIQUID
NFPA CLASSIFICATION: HEALTH (2) FLAMMABILITY (3) REACTIVITY (0)
DOT/CERCLA RQ: 16700 lbs. (XYLENE)
DATE REVISED: 12/5/90
UN/NA NUMBER: UN 1993
SPECIFIC HAZARD (N/A)

2 - SUMMARY OF HAZARDS

WARNING
PHYSICAL HAZARDS: HIGHLY FLAMMABLE LIQUID
ACUTE HEALTH HAZARDS: (SHORT-TERM) MODERATE SKIN IRRITANT, SUSPECT INHALATION HAZARD, SUSPECT EYE CONTACT HAZARD, SUSPECT SKIN IRRITATION HAZARD, SUSPECT INGESTION HAZARD
CHRONIC HEALTH HAZARDS: (LONG-TERM) NO INFORMATION IS AVAILABLE ON CHRONIC HEALTH HAZARDS. HOWEVER, REPEATED SKIN CONTACT SHOULD BE AVOIDED AS THIS MATERIAL MAY CONTAIN POLYNUCLEAR AROMATIC HYDROCARBONS WHICH HAVE BEEN REPORTED TO INDUCE TUMORS IN LAB ANIMALS. SEE SUPPLEMENT.

3 - COMPONENTS

| COMPONENT NAME | CAS NUMBER | % COMPOSITION BY (WT.) |
|------------------------------|------------|------------------------|
| TRADE SECRET 5294-01# | | |
| TRADE SECRET 5294-02# | | |
| *XYLENE | 1330-20-7 | < 11 |
| *ETHYLBENZENE | 100-4-1-4 | < 3 |
| ISOPROPYL ALCOHOL | 67-63-0 | |
| HEAVY AROMATIC SOLVENT | 64742-94-5 | |
| CARCINOGEN AS LISTED BY IARC | | |

* THIS IS A SARA SECTION 313 LISTED CHEMICAL
US TSCA INVENTORY: ALL COMPONENTS ARE INCLUDED ON THE US TSCA INVENTORY

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT: 180F
FREEZING POINT: AP -18C
SPECIFIC GRAVITY (H2O=1 AT 39.2F): .97
PH: N/A
DRY POINT: N/A
VOLATILE CHARACTERISTICS: NEGLIGIBLE

INC-820 EMULSION BREAKER

4 - PHYSICAL AND CHEMICAL DATA (continued)

| | |
|--|---|
| VISCOSITY UNITS, TEMP. N/AP | SOLUBILITY IN WATER NEGLIGIBLE |
| VAPOR PRESSURE 11.0 MM HG AT 70F | STABILITY STABLE |
| VAPOR SP GR (AIR=1 AT 60 - 90F) 2.3 | HAZARDOUS POLYMERIZATION NOT EXPECTED TO OCCUR |
| APPEARANCE AND ODOR DARK BROWN LIQUID, AROMATIC ODOR | |
| CONDITIONS AND MATERIALS TO AVOID HEAT, SPARKS, AND OPEN FLAMES | |
| STRONG OXIDIZING AGENTS, STRONG ALKALIES | |
| HAZARDOUS DECOMPOSITION PRODUCTS INCOMPLETE COMBUSTION MAY RELEASE POISONOUS CARBON MONOXIDE AND OXIDES AND/OR COMPOUNDS OF NITROGEN AND SULFUR. | |

5 - OCCUPATIONAL EXPOSURE LIMITS

| SUBSTANCE | SOURCE | DATE | TYPE | VALUE | TIME |
|-------------------|------------|------|---------|---------|--------|
| XYLENE | ACGIH/OSHA | 1989 | TLV/PEL | 100 PPM | 8 HRS |
| | | | STEL | 150 PPM | 15 MIN |
| ISOPROPYL ALCOHOL | ACGIH/OSHA | 1989 | TLV/PEL | 400 PPM | 8 HRS |
| | | | STEL | 500 PPM | 15 MIN |
| ETHYLBENZENE | ACGIH/OSHA | 1989 | TLV/PEL | 100 PPM | 8 HRS |
| | | | STEL | 125 PPM | 15 MIN |

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(D-56) AUTOIGNITION TEMP. METHOD=
75F AP 750F

FLAMMABLE LIMITS (% VOLUME IN AIR)
AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE
LOWER: 1.1 UPPER: 12.0

FIRE AND EXPLOSION HAZARDS
RELEASES VAPORS AT NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND
EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED.
FLAMMABLE VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG
GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE.

EXTINGUISHING MEDIA
DRY CHEMICAL
CO2
WATER SPRAY
ALCOHOL

SPECIAL FIREFIGHTING PROCEDURES
DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPO-
SITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION.
HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREAS-
ING RISK OF BURNS/INJURIES. DO NOT USE SOLID WATER STREAM/MAY SPREAD FIRE.
USE WATER SPRAY/FOG FOR COOLING. AVOID FROTHING/STEAM EXPLOSION. BURNING
LIQUID WILL FLOAT ON WATER. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/
PUBLIC WATERS.

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE
INHALATION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO
EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.

INC-820

EMULSION BREAKER**7 - HEALTH HAZARDS (continued)****EYE CONTACT -- PRIMARY ROUTE**

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE EYE IRRITATION.

SKIN ABSORPTION

NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST.

SKIN IRRITATION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SKIN IRRITANT.

INGESTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INGESTION HAZARD.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

SEE SUPPLEMENT

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES**RESPIRATORY PROTECTION**

IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED AIR-PURIFYING OR SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE PER THE NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

EYE PROTECTION

EYE PROTECTION SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE SHIELD MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING LIQUID, AIRBORNE PARTICLES, OR VAPOR. CONTACT LENSES SHOULD NOT BE WORN.

SKIN PROTECTION

WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

GENERAL ROOM OR LOCAL EXHAUST VENTILATION IS USUALLY REQUIRED TO MEET EXPOSURE STANDARD(S).

OTHER HYGIENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID**INHALATION**

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH W/LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATERLESS CLEANER FIRST. SEEK MEDICAL ATTENTION IF ILL EFFECT OR IRRITATION DEVELOPS.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION.

EMERGENCY MEDICAL TREATMENT PROCEDURES

TREAT BURNS OR ALLERGIC REACTIONS CONVENTIONALLY AFTER DECONTAMINATION. DO NOT INDUCE VOMITING. ADMINISTER AN AQUEOUS SLURRY OF ACTIVATED CHARCOAL FOLLOWED BY A CATHARTIC SUCH AS MAGNESIUM CITRATE OR SORBITOL.

INC-820 EMULSION BREAKER

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED
EXTREMELY FLAMMABLE LIQUID. EXTINGUISH ALL IGNITION SOURCES. IMPOUND/
RECOVER LARGE LAND SPILL. BLANKET WITH FIREFIGHTING FOAM. SOAK UP SMALL
SPILL. ON WATER, MAY BIODEGRADE. CONTAIN/MINIMIZE DISPERSION/COLLECT.
REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS

CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO
POTENTIALLY LOW FLASH POINT (SEE 40 CFR 261 AND 29 CFR 1910). WASTE MAY BE
DESIGNATED D001 UNDER RCRA LISTING DUE TO PRESENCE OF ISOPROPYL ALCOHOL.
LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CON-
CENTRATED LIQUIDS. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE
REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISON-
ING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES

STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, SPARKS,
OPEN FLAME, STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORE
DRUMS WITH BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE
REMOVING CLOSURE. CONTAINERS MUST BE GROUNDED BEFORE BEGINNING TRANSFER.
ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. HANDLE
"EMPTY" CONTAINERS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE. VAPOR SPACE
ABOVE LIQUID MAY BE FLAMMABLE/EXPLOSIVE UNLESS BLANKETED WITH INERT GAS.

DECONTAMINATION PROCEDURES

ISOLATE, VENT, DRAIN, WASH AND PURGE SYSTEMS OR EQUIPMENT BEFORE MAINTEN-
ANCE OR REPAIR. REMOVE ALL IGNITION SOURCES. CHECK ATMOSPHERE FOR EXPLO-
SIVENESS AND OXYGEN DEFICIENCIES. USE ADEQUATE PERSONAL PROTECTIVE
EQUIPMENT. OBSERVE PRECAUTIONS PERTAINING TO CONFINED SPACE ENTRY.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY

SIGNAL WORD

WARNING

PHYSICAL HAZARDS

HIGHLY FLAMMABLE

HEALTH HAZARDS

SKIN IRRITANT

INHALATION HAZARD

SIMILAR MATERIAL INDUCES TUMORS IN LAB ANIMALS

MAY CAUSE LONG-TERM ADVERSE HEALTH EFFECTS

MUCOUS MEMBRANE IRRITANT

PRECAUTIONARY MEASURES

DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.

KEEP CONTAINER CLOSED WHEN NOT IN USE.

DO NOT STORE NEAR COMBUSTIBLE MATERIALS.

STORE IN TIGHTLY CLOSED CONTAINERS.

AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.

AVOID PROLONGED OR REPEATED CONTACT WITH SKIN.

USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.

13 - SUPPLEMENT

CHRONIC HEALTH HAZARDS - SECTIONS 2 AND 7

REGARDING POTENTIAL CHRONIC HEALTH HAZARDS WHICH MAY RESULT FROM
LONG-TERM, REPEATED CONTACT, THIS MATERIAL MAY CONTAIN POLYNUCLEAR
AROMATIC HYDROCARBONS (PNA'S). STUDIES HAVE SHOWN THAT THE REPEATED
PAINTING OF PNA'S ON THE SKIN OF EXPERIMENTAL ANIMALS OVER A SUSTAINED
PERIOD OF TIME RESULTS IN THE INDUCTION OF TUMORS. INDIVIDUALS SHOULD
AVOID SKIN CONTACT AND SHOULD WASH AFFECTED AREAS IMMEDIATELY IF CONTACT

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EMULSION BREAKER

13 - SUPPLEMENT (continued)

OCCURS.

ALL ELECTRICAL EQUIPMENT IN AREAS WHERE MATERIAL IS STORED OR HANDLED SHOULD BE INSTALLED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, N.E.P.A.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

| | | | |
|------|---------------------|-----|-------------------------------------|
| EQ | = EQUAL | AP | = APPROXIMATELY |
| LT | = LESS THAN | GT | = GREATER THAN |
| TR | = TRACE | UK | = UNKNOWN |
| N/AP | = NOT APPLICABLE | N/P | = NO APPLICABLE INFORMATION FOUND |
| N/DA | = NO DATA AVAILABLE | CBI | = CONFIDENTIAL BUSINESS INFORMATION |

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

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Hoechst Celanese

Hoechst Celanese Corporation
Specialty Chemicals Group
P.O. Box 1026
Charlotte, NC 28201-1026
Fax 704 559 6299

Material Safety Data Sheet

THE EMERGENCY PHONE NUMBERS ARE: CHEMTREC (800) 424-9300
HOECHST CELANESE (804) 484-5000
FOR (NON EMERGENCY) PRODUCT INFORMATION CALL: (800) 235-2637

PAGE 1

PRODUCT IDENTIFICATION

PRODUCT NAME:
VIRTEX D CONCENTRATED SODIUM HYDROSULFITE
SYNONYMS:
SODIUM HYDROSULFITE
SODIUM DITHIONITE

VERSION DATE: 01/30/91
DATE PRINTED: 01/30/91
MSDS NUMBER: 1101090203

HAZARDOUS INGREDIENTS

| INGREDIENT: | PERCENT: | HAZARD DATA: |
|----------------------------------|----------|--|
| SODIUM HYDROSULFITE (7775-14-6) | 90% | FLAMMABLE SOLID SEE EFFECTS OF OVEREXPOSURE |
| SODIUM METABISULFITE (7681-57-4) | 3-7% | |
| SODIUM THIOSULFATE (7772-98-7) | 1% | |
| SODIUM FORMATE (141-53-7) | 1% | |

PHYSICAL DATA

| PHYSICAL DATA | LOW | HIGH | UNITS | COMMENT |
|---------------------------|-----|------|-------|--------------|
| MELTING POINT | | | | DECOMPOSES |
| DENSITY | 0.8 | 1.02 | G/CC | |
| SOLUBILITY IN WATER | 18 | | WT.% | AT 20 DEG C. |
| DECOMPOSITION TEMPERATURE | 70 | 130 | DEG.C | |

APPEARANCE AND ODOR:
WHITE POWDER, SLIGHT SULFUR DIOXIDE ODOR

FIRE AND EXPLOSION HAZARDS

EXTINGUISHING MEDIA:
WATER IN VERY LARGE QUANTITIES

SPECIAL PROCEDURES:
USE SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING.
IF DECOMPOSITION IS SUSPECTED IN SEALED CONTAINER (HOT TO TOUCH OR PRESSURE DEFORMED), VENT CONTAINER BY SAFEST MEANS POSSIBLE. MOVE VENTED CONTAINER TO A SAFE OPEN AREA. EMPTY, FLOOD MATERIAL WITH WATER, CONTAIN ALL RUNOFF. SAND OR DRY CHEMICAL WILL NOT STOP DECOMPOSITION REACTIONS!

UNUSUAL HAZARDS:
CONTACT WITH SMALL AMOUNTS OF WATER OR MOIST AIR WILL CAUSE A CHEMICAL DECOMPOSITION REACTION. HEAT GENERATED IS SUFFICIENT TO IGNITE COMBUSTIBLE MATERIAL. IF FIRE CODE REQUIRES SPRINKLERED STORAGE, PROTECT BY COVERING WITH PLASTIC SHEET. PROMPTLY REMOVE AND INSPECT CONTAINERS WHICH ARE ACCIDENTALLY WETTED (SEE PREVIOUS PARAGRAPH).

HEALTH INFORMATION

PRIMARY ROUTE OF EXPOSURE: INHALATION: YES SKIN ABSORPTION: NO INGESTION: YES

EFFECTS OF OVEREXPOSURE:
INHALATION: MAY CAUSE RESPIRATORY IRRITATION AND BRONCHOSPASMS. SYMPTOMS MAY INCLUDE COUGHING AND BREATHING DIFFICULTY. MAY CAUSE SEVERE RESPIRATORY DISTRESS IN ASTHMATICS. ASTHMATICS OR PERSONS WITH OTHER RESPIRATORY DISORDERS SHOULD BE EXCLUDED FROM EXPOSURE.
SKIN CONTACT: MAY CAUSE SLIGHT IRRITATION. NECROSIS OBSERVED IN ONE SKIN IRRITATION STUDY OF LABORATORY ANIMALS (RABBITS).
SKIN ABSORPTION: PRACTICALLY NON-TOXIC. LD50(RABBITS)>10,000 MG/KG.
SWALLOWING: MAY CAUSE MOUTH, THROAT, ESOPHAGUS IRRITATION OR BURNS. MAY CAUSE

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PRODUCT NAME: VIRTEX D CONCENTRATED SODIUM HYDROSULFITE MSDS NUMBER: 1101090203

-----REACTIVITY DATA----- (CONTINUED)

HAZARDOUS DECOMPOSITION PRODUCTS:
A MAJOR DECOMPOSITION PRODUCT IS SULFUR DIOXIDE; HOWEVER, DURING CATASTROPHIC DECOMPOSITION OTHER SULFUR CONTAINING DECOMPOSITION PRODUCTS SUCH AS HYDROGEN SULFIDE AND MERCAPTANS MAY BE PRESENT.

-----SPILL OR LEAK PROCEDURES/WASTE DISPOSAL-----

SPILL OR LEAK PROCEDURES:
CONTAIN TO MINIMIZE CONTAMINATED AREA. RECOVER AS A DRY MATERIAL. DISCARDED UNREACTED MATERIAL IS A HAZARDOUS WASTE BECAUSE OF REACTIVITY WITH MOISTURE. KEEP OUT OF GROUND AND SURFACE WATERS.
HAZARDOUS SUBSTANCE SUPERFUND: NO RQ(LBS): 100 LBS
HAZARDOUS WASTE 40CFR261: YES HAZ. WASTE NO.: D-003

WASTE DISPOSAL:
DISPOSE OF SOLID MATERIAL IN A HAZARDOUS WASTE TREATMENT FACILITY IN COMPLIANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. DISPOSE OF WATER SOLUTIONS OF THE MATERIAL IN INDUSTRIAL WASTEWATER TREATMENT SYSTEM OR OTHERWISE AS ALLOWED BY LOCAL, STATE OR FEDERAL REGULATIONS.

-----EMPLOYEE PROTECTION-----

RESPIRATORY PROTECTION:
USE NIOSH/MSHA APPROVED RESPIRATOR WITH ACID GAS CARTRIDGE AND DUST PREFILTER. FOR CONCENTRATIONS OVER 10 TIMES THE RECOMMENDED EXPOSURE LIMIT, AS WELL AS FOR FIREFIGHTING AND OTHER EMERGENCIES, USE POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS.

PROTECTIVE CLOTHING:
WORK CLOTHING TO COVER EXPOSED AREAS.
CHEMICAL GOGGLES.
WEAR NEOPRENE OR OTHER IMPERMEABLE GLOVES WHEN SKIN CONTACT IS LIKELY.
CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH THIS CHEMICAL.

ADDITIONAL PROTECTIVE MEASURES:
USE LOCAL EXHAUST TO CONTROL DUST WITHIN THE RECOMMENDED LIMITS.
EYE WASH AND/OR SAFETY SHOWER.

-----SPECIAL PRECAUTIONS-----

KEEP STORED MATERIAL DRY AND AT TEMPERATURES BELOW 50 DEG. C. DO NOT STORE CONTAINERS OPEN TO THE AIR. KEEP THE CONTAINER TIGHTLY COVERED WHEN MATERIAL IS NOT IN USE. SEPARATE CONTAINERS FROM OXIDIZERS, ACIDS AND FLAMMABLE MATERIALS. AVOID SOURCES OF HEAT OR FLAME.
IF THE CONTAINER WALL FEELS HOT OR IF THE CONTAINER BEGINS SMOKING, REMOVE THE CONTAINER TO AN OPEN AREA, REMOVE MATERIAL, FLOOD WITH WATER, CONTAIN RUN-OFF. REMOVE DAMAGED OR PUNCTURED CONTAINERS FROM STORAGE, SECURE ANY LEAKS AND USE PRODUCT IMMEDIATELY OR SECURE LEAKS, OBSERVE CONTAINER FOR SIGNS OF PRODUCT DECOMPOSITION (CONTAINER WARM TO TOUCH).
IF STORED IN A FIRE SPRINKLER PROTECTED AREA, COVER CONTAINER WITH PLASTIC SHEETING TO PREVENT WETTING IF SPRINKLERS ACTIVATE.

FROM PIONEER CHEMICAL

Hoechst Celanese

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PAGE 4

PRODUCT NAME:
VIRTEX D CONCENTRATED SODIUM HYDROSULFITE

MSDS NUMBER: 1150203

-----OTHER REGULATORY CONTROLS-----

OTHER REGULATORY CONTROLS:
SARA SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE) LIST/
SECTION 304 (CERCLA):
SARA SECTION 313 (TOXIC CHEMICAL) LIST:
TSCA INVENTORY STATUS:

NO
NO
ALL THE SUBSTANCE
LISTED IN SECTION
III ARE ON THE TSCA
INVENTORY.

INTERNATIONAL MARITIME ORGANIZATION: IMO SHIPPING NAME: SODIUM DITHIONITE
UN NUMBER: 1384 CLASS: 4.2, SPONTANEOUSLY COMBUSTIBLE
IMDG CODE PAGE: 4122

OSHA PHYSICAL HAZARDS:
WATER REACTIVE

OSHA HEALTH HAZARDS:
EYE HAZARD
IRRITANT
SENSITIZER

HAZARD COMMUNICATION LABEL: P00.0

SARA HAZARD CLASS:
ACUTE: YES CHRONIC: NO FIRE HAZARD: YES PRESSURE: NO REACTIVITY: YES

CHACO CHEMICAL COMPANY
EMERGENCY RESPONSE PROCEDURE

Chaco Chemical Company must immediately notify the local emergency response commissions likely to be affected if there is a release of a listed hazardous substance that exceeds the reportable quantity for that substance. Substances subject to this requirement are the list of 366 extremely hazardous substances as published in Federal Register (40 CFR 355) and substances subject to the emergency notification requirements under CERCLA Section 103(a) (40 CFR 302.4).

Chaco Chemical Company also will provide a follow-up emergency notice after the release, as mandated in Section 304.

Chaco Chemical Company requires all emergency equipment is adequately maintained. Assured by an agreement with a fully integrated oilfield construction service company.

Chaco Chemical Company disposes of all hazardous materials in an safe and appropriate manner.

The following procedure is to be followed by Chaco Chemical Company in response to a potential chemical accident;

Initial notification of a chemical accident may be made by telephone, radio or in person. Emergency notification requirements involving transportation incidents can be met by dialing 911, or in the absence of a 911 emergency number, calling the operator.

Emergency notification must include the following:

1. The chemical name.
2. An indication of whether the substance is extremely hazardous. Check each of the following lists:

List of Extremely Hazardous Substances (366 Substances)
(40 CRT 355)

Substances requiring notification under Section 103(a) of CERCLA [717 substances] (40 CFR 302.4)

Hazardous Chemicals considered physical or health hazards under Aces Hazard Communication Standard (29 CFR 1910, 1200)

Material Safety Data Sheets

3. An estimate of the quantity of substance released into the environment.
4. The time and duration of the release.
5. Whether the release occurred into air, water and/or land.
6. Any known or anticipated acute or chronic health risks associated with the emergency and necessary advice on medical attention for exposed individuals.
7. Proper precautions including evacuation.
8. Name and telephone number of contact person.

Follow-up notice or notices must include:

1. Update of information included in the initial notice.
2. Provide information on:

The actual response actions taken.

Advice regarding medical attention necessary for exposed individuals.

Reviewed By:



Anthony T. Archuleta
Chaco Chemical Company

Date:

7/4/95

Received By: _____

Date: _____

Date:

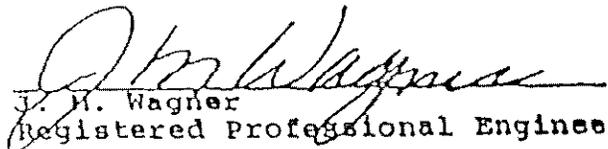
Subject: Spill Prevention Plan - Chemical Bulk Tanks

From/Location: A.T. ARCHULETA

To/Location: CHACO CHEMICAL EMPLOYEES

In case of a chemical spill or leak in your bulk storage tanks, you should put sand on the chemical to dry it up and then call a commercial company that is licensed to dispose of hazardous waste materials to pick up and dispose of the remains.

This plan should be kept in an office that is closest to the bulk tanks and readily accessible to all.


J. M. Wagner
Registered Professional Engineer

SPILL PREVENTION PLAN- WAREHOUSE

Date

Subject

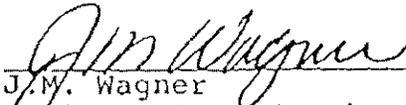
From/Location

To/Location

In case of a chemical leak or spill in your warehouse, you should put Absorb-all on the chemical to dry it up and then call a commercial company that is licensed to dispose of hazardous waste material to pick up and dispose of the remains. Should there be no commercial hazardous waste disposal available, the remains are to be shipped to Sand Springs for disposal.

MSD sheets are to be readily available in the warehouse on all products in the warehouse at all times.

This plan will hang in the warehouse in a place accessible to everyone.



J.M. Wagner
Registered Professional Engineer



New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson

Governor
Jbanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division



January 30, 2009

Certified Mail
7002 0510000351252089

Dear Mr. Anthony Wiggins
P.O. Box 3526
Farmington, N.M. 87499

IMMEDIATE ATTENTION REQUIRED- DEADLINE ENCLOSED

**RE: New Discharge Permit, GW-348
Chaco Chemical Company
CR 5759 # 20 Farmington
San Juan County, New Mexico**

The New Mexico Oil Conservation Division (NMOCD) has received Chaco Chemical Company's application and initial fee, dated January 16, 2009 for a new discharge plan permit for their Oil and Gas Service Company located in unit letter M of Section 20, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. The initial submittal did not provide the required information and therefore the OCD has declared your application to be "administratively" incomplete.

The OCD is requesting the following information, per subsection F of 20.6.2.3108 NMAC:

- (1) a brief description of the activities that produce the discharge described in the application
- (2) a brief description of the expected quality and volume of the discharge
- (3) the depth to and total dissolved solids concentration of the ground water most likely to be affected by the discharge. *Your submittal identified the depth to groundwater to be 7 feet bgs. Please submit the TDS level of the identified groundwater.*

Under the WQCC, an applicant for a new discharge plan permit is required to provide public notice. I have enclosed the relevant WQCC rules and regulations to provide direction for this task. The notice process is accomplished through a series of stages. I have attached a flow chart of this process and an example of an applicant public notice for clarification. Please review the materials I have enclosed and submit the public notice for our review. Once approved the notice shall be used for all other additional postings as indicated by the WQCC rules and regulations.

Please submit the above stated information within 15 days of receipt of this letter. If there are any questions regarding this matter, please do not hesitate to contact me at (505) 476-3492 or e-mail

NM-OCD 2009-01

EXHIBIT N

Oil Conservation Division * 1220 South St. Francis Drive
* Santa Fe, New Mexico 87505

* Phone: (505) 476-3440 * Fax (505) 476-3462* <http://www.emnrd.state.nm.us>

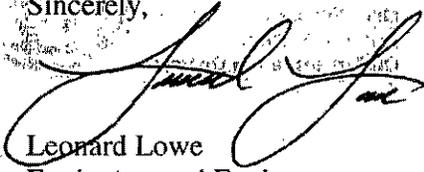


January 30, 2009

Page 2

leonard.lowe@state.nm.us. On behalf of the staff of the NMOCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,



Leonard Lowe
Environmental Engineer

LRL/lrl

- xc: Brandon Powell, Environmental Specialist, OCD Aztec District III
Charlie Perrin, Supervisor, OCD Aztec District III
Mikal Altamore, Assistant General Counsel, Santa Fe
Daniel Sanchez, Enforcement and Compliance Manager, Santa Fe

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. 4552 dated 1/16/09

or cash received on _____ in the amount of \$ 100⁰⁰

from Chaco Chemical Co LLC

for GW-348

Submitted by: Laurie Romero Date: 1/26/09

Submitted to ASD by: Laurie Romero Date: 1/26/09

Received in ASD by: _____ Date: _____

Filing Fee New Facility _____ Renewal _____

Modification _____ Other _____

Organization Code 521.07 Applicable FY 2004

To be deposited in the Water Quality Management Fund.

Full Payment _____ or Annual Increment _____

C.W. GW-348

CHACO CHEMICAL ~~CO LLC~~ *Chaco Chemical Co LLC* 95-32/10701 4552
CHRISTINE OR PAUL WIGGINS
205 E. ELM STREET 505-326-3050
P.O. BOX 3526
FARMINGTON, NM 87499
Date 1-16-09

Pay to the Order of Our Conversation Dinner \$ 100⁰⁰
One hundred dollar & ⁰⁰/₁₀₀ cents Dollars

BANK OF AMERICA, N.A.

For Christine Wiggins

⑆107000327⑆ 004271177687⑈ 4552

Diamond Plate #2263 © 2003 The Styles Check Company™ 1-800-366-0353 www.styleschecks.com

Chaco Chemical Company received their Administrative Incomplete letter on
February 3, 2009.

In 15 days

A response is needed at the OCD office on

February 18, 2009

| SENDER: COMPLETE THIS SECTION | COMPLETE THIS SECTION ON DELIVERY |
|--|--|
| <ul style="list-style-type: none">■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.■ Print your name and address on the reverse so that we can return the card to you.■ Attach this card to the back of the mailpiece, or on the front if space permits. | <p>A. Signature <input type="checkbox"/> Agent <input checked="" type="checkbox"/> Addressee <i>X</i> <i>Christine Wiggins</i></p> <p>B. Received by (Printed Name) C. Date of Delivery <i>CAROLINE WIGGINS</i> <i>2-3-09</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input checked="" type="checkbox"/> No</p> |
| 1. Article Addressed to: Mr. Anthony Wiggins Post Office Box 3526 Farmington, NM 87499 | 3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D. 4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes |
| 2. Article Number (Transfer from service label) | 7002 0510 0003 5125 2089 |
| PS Form 3811, August 2001 | Domestic Return Receipt 102595-02-M-103E |

NM-OCD 2009-01
EXHIBIT O