Material Safety Data / Fiche signalétique

WESTCOAST DRILLING SUPPLIES LTD.
8069 River Way, Delta, British Columbia,
Canada V4G 1L3
Ph. (604) 940-6050 Fax (604) 940-6080

EMERGENCY 1-800-665-6645

SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME:	**W-OB POLYMER**
PRODUCT USE:	Drilling Mud Additive
CHEMICAL FAMILY:	Polysaccharide Polymer
WHMIS CLASSIFICATION:	Class B-3 & D-2(B)
WORK PLACE HAZARD:	Combustible and Skin and Eye Irritant

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION:	Not Dangerous Goods
PACKAGE GROUP:	Not applicable
PRODUCT IDENTIFICATION NUMBER (PIN):	Not applicable

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
Light mineral distillate	10 - 20%	64742-47-8	Not determined	

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY:
[XXX] Skin, [XXX] Eye Contact, [XXX] Inhalation, [XXX] Ingestion

THRESHOLD LIMIT VALUE:	5 mg/cu.M/8 hrs.
EFFECTS OF OVEREXPOSURE:	No significant signs or symptoms indicative of any adverse health effects are expected to occur upon short-term exposures.

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Remove by wiping; then wash thoroughly with plenty of soap and water.
EYE CONTACT: Flush eyes with clean, low pressure water for at least fifteen (15) minutes, occasionally lifting the eyelids. If pain or redness persists after flushing, obtain medical attention.
INHALATION: Immediately remove personnel from contaminated area to fresh air. Obtain medical attention if there are signs of breathing difficulties.
INGESTION: Do not induce vomiting, since aspiration into the lungs could cause lipoid pneumonia. This material is not toxic and no significant signs or symptoms indicative of any adverse health effects are expected.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR:	Opaque, blue liquid; Odorless.
DENSITY (SPECIFIC GRAVITY):	1.03
BOILING POINT:	200° C
MELTING POINT:	Not applicable
WATER SOLUBILITY:	Soluble
% VOLATILE BY VOLUME:	Negligible
EVAPORATION RATE:	Nil
VAPOR PRESSURE: (mm Hg)	< 1.0
VAPOR DENSITY: (Air = 1)	> 10.0
pH:	6 - 8

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W-OB POLYMER

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	62° C
FLAMMABLE LIMIT:	Auto-ignition Temp. 227° C
EXTINGUISHING MEDIA:	Dry chemical, CO_2, foam and water are effective but may cause frothing.
SPECIAL FIRE FIGHTING PROCEDURES:	Cool tanks and containers exposed to fire with water.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	To protect against hazardous effects of combustion products respiratory protective equipment when in confined spaces or down wind of fire.

SECTION VII: REACTIVITY DATA

STABLE [XXX] INSTABLE [ ]

INCOMPATIBILITY (CONDITIONS TO AVOID):	Extreme heat and open flame.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon dioxide; carbon monoxide.
HAZARDOUS POLYMERIZATION:	Will not occur [XXX] May occur [ ]

SECTION VIII: PREVENTATIVE MEASURES

SPECIAL PROTECTION INFORMATION:	
RESPIRATORY PROTECTION:	None required under normal conditions.
VENTILATION:	Adequate ventilation to minimize oil mists below acceptable standards.
PROTECTIVE GLOVES:	None required.
EYE PROTECTION:	Normal safety glasses suggested.
OTHER PROTECTIVE EQUIPMENT:	None required.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact.

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

(Use appropriate safety equipment). Small spills, soak up with absorbent material. Large spills, dike to contain spill to prevent water pollution. Water will cause extreme slipperiness. Recover diked material; return recovered material to plant.

WASTE DISPOSAL METHOD:

Absorb spilled material with absorbent compound, incinerate/dispose to conform with local disposal regulations.

SECTION IX: PREPARATION

The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: October 29, 1993

BY: Product Safety Committee

DATE REVISED: April 1, 2000

Review date: Jan 31/03

Authorized by: Alan Clarke

The Clorox Company
1221 Broadway
Oakland, CA 94612
Tel. (510) 271-7000

Material Safety Data Sheet

I Product:	CLOROX REGULAR-BLEACH
Description:	CLEAR, LIGHT YELLOW LIQUID WITH A CHARACTERISTIC CHLORINE ODOR

Other Designations	Distributor	Emergency Telephone Nos.
Clorox Bleach EPA Reg. No. 5813-50	Clorox Sales Company 1221 Broadway Oakland, CA 94612	For Medical Emergencies call: (800) 446-1014 For Transportation Emergencies Chemtrec (800) 424-9300

II Health Hazard Data

DANGER: CORROSIVE. May cause severe irritation or damage to eyes and skin. Vapor or mist may irritate. Harmful if swallowed. Keep out of reach of children.

Some clinical reports suggest a low potential for sensitization upon exaggerated exposure to sodium hypochlorite if skin damage (e.g., irritation) occurs during exposure. Under normal consumer use conditions the likelihood of any adverse health effects are low.

Medical conditions that may be aggravated by exposure to high concentrations of vapor or mist: heart conditions or chronic respiratory problems such as asthma, emphysema, chronic bronchitis or obstructive lung disease.

FIRST AID:

Eye Contact: Hold eye open and rinse with water for 15-20 minutes. Remove contact lenses, after first 5 minutes. Continue rinsing eye. Call a physician.

Skin Contact: Wash skin with water for 15-20 minutes. If irritation develops, call a physician.

Ingestion: Do not induce vomiting. Drink a glassful of water. If irritation develops, call a physician. Do not give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air. If breathing is affected, call a physician.

III Hazardous Ingredients

Ingredient	Concentration	Exposure Limit
Sodium hypochlorite CAS# 7681-52-9	6.15%	Not established
Sodium hydroxide CAS# 1310-73-2	<1%	2 mg/m$^{3;1}$ 2 mg/m$^{3;2}$

[1]ACGIH Threshold Limit Value (TLV) - Ceiling

[2]OHSA Permissible Exposure Limit (PEL) – Time Weighted Average (TWA)

None of the ingredients in this product are on the IARC, NTP or OSHA carcinogen lists.

IV Special Protection and Precautions

No special protection or precautions have been identified for using this product under directed consumer use conditions. The following recommendations are given for production facilities and for other conditions and situations where there is increased potential for accidental, large-scale or prolonged exposure.

Hygienic Practices: Avoid contact with eyes, skin and clothing. Wash hands after direct contact. Do not wear product-contaminated clothing for prolonged periods.

Engineering Controls: Use general ventilation to minimize exposure to vapor or mist.

Personal Protective Equipment: Wear safety glasses. Use rubber or nitrile gloves if in contact liquid, especially for prolonged periods.

KEEP OUT OF REACH OF CHILDREN

V Transportation and Regulatory Data

DOT/IMDG/IATA - Not restricted.

EPA - SARA TITLE III/CERCLA: Bottled product is not reportable under Sections 311/312 and contains no chemicals reportable under Section 313. This product does contain chemicals (sodium hydroxide <0.2% and sodium hypochlorite <7.35%) that are regulated under Section 304/CERCLA.

TSCA/DSL STATUS: All components of this product are on the U.S. TSCA Inventory and Canadian DSL.

VI Spill Procedures/Waste Disposal

Spill Procedures: Control spill. Containerize liquid and use absorbents on residual liquid; dispose appropriately. Wash area and let dry. For spills of multiple products, responders should evaluate the MSDS's of the products for incompatibility with sodium hypochlorite. Breathing protection should be worn in enclosed, and/or poorly ventilated areas until hazard assessment is complete.

Waste Disposal: Dispose of in accordance with all applicable federal, state, and local regulations.

VII Reactivity Data

Stable under normal use and storage conditions. Strong oxidizing agent. Reacts with other household chemicals such as toilet bowl cleaners, rust removers, vinegar, acids or ammonia containing products to produce hazardous gases, such as chlorine and other chlorinated species. Prolonged contact with metal may cause pitting or discoloration.

VIII Fire and Explosion Data

Flash Point: None

Special Firefighting Procedures: None

Unusual Fire/Explosion Hazards: None. Not flammable or explosive. Product does not ignite when exposed to open flame.

IX Physical Data

Boiling point	approx. 212°F/100°C
Specific Gravity (H_2O=1)	~ 1.1 at 70°F
Solubility in Water	complete
pH	~11.4

DATA SUPPLIED IS FOR USE ONLY IN CONNECTION WITH OCCUPATIONAL SAFETY AND HEALTH DATE PREPARED 05/05

COLGATE-PALMOLIVE -- PALMOLIVE 46400 DISHWASHING LIQUID
MATERIAL SAFETY DATA SHEET
NSN: 793000F026516
Manufacturer's CAGE: 86223
Part No. Indicator: A
Part Number/Trade Name: PALMOLIVE 46400 DISHWASHING LIQUID

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General Information

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Company's Name: COLGATE-PALMOLIVE CO
Company's Street: 300 PARK AVE
Company's City: NEW YORK
Company's State: NY
Company's Country: US
Company's Zip Code: 10022
Company's Emerg Ph #: 201-878-7533
Company's Info Ph #: 201-878-7533
Record No. For Safety Entry: 001
Tot Safety Entries This Stk#: 001
Status: SE
Date MSDS Prepared: 01JAN89
Safety Data Review Date: 23MAR93
Preparer's Company: COLGATE-PALMOLIVE CO
Preparer's St Or P. O. Box: 300 PARK AVE
Preparer's City: NEW YORK
Preparer's State: NY
Preparer's Zip Code: 10022
MSDS Serial Number: BQJKV

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Ingredients/Identity Information

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Proprietary: NO
Ingredient: NON-HAZARDOUS FOR INGREDIENTS
Ingredient Sequence Number: 01
NIOSH (RTECS) Number: 1000314NH

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Physical/Chemical Characteristics

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Appearance And Odor: SYRUPY, CLEAR, GREEN LIQUID W/MILD FLORAL OR LEMON ODOR
Specific Gravity: 1.05
Solubility In Water: COMPLETE
pH: 7.3

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Fire and Explosion Hazard Data

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Flash Point: NON-FLAMMABLE
Extinguishing Media: CO2, FOAM, DRY CHEMICAL
Special Fire Fighting Proc: SELF-CONTAINED BREATHING APPARATUS & PROTECTIVE CLOTHING SHOULD BE WORN WHEN FIGHTING CHEMICAL FIRES.

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Reactivity Data

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Stability: YES

Hazardous Poly Occur: NO

Health Hazard Data

Route Of Entry - Inhalation: NO
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: INGESTION: CAN CAUSE NAUSEA, VOMITING, DIARRHEA. EYES: POSSIBLE IRRITATION ON DIRECT CONTACT. SKIN: MINOR IRRITATION.
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: NONE
Emergency/First Aid Proc: INGESTION: IF YOU EAT OR DRINK THIS, YOU MAY THROW UP. DRINK SIPS OF WATER OR MILK. IF VOMITING CONTINUES, SEE DOCTOR. EYES: FLUSH IMMEDIATELY W/WARM WATER FOR AT LEAST 15 MINS. OBTAIN MEDICAL ATTENTION IN ALL CASES.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: SMALL SPILLS CAN BE WIPED UP W/CLOTH, PAPER OR STANDARD ABSORBENTS (SAND, SAWDUST, VERMICULITE).
Waste Disposal Method: PREFERRED METHOD IS INCINERATION AT A LICENSED APPROVED FACILITY. EMPTY CONTAINERS MAY BE DISPOSED AS CONVENTIONAL SOILD WASTE. DISPOSE OF IN ACCORDANCE W/FEDERAL, STATE & LOCAL REGULATIONS.

Control Measures

Protective Gloves: RUBBER
Work Hygienic Practices: WASH HANDS THOROUGHLY AFTER HANDLING.

Transportation Data

Disposal Data

Label Data

Label Required: NO
Technical Review Date: 23MAR93
Label Date: 19FEB93
Label Status: Y
Special Hazard Precautions: CARCINOGEN: FORMALDEHYDE
Label Name: COLGATE-PALMOLIVE CO
Label Street: 300 PARK AVE
Label City: NEW YORK
Label State: NY
Label Zip Code: 10022
Label Country: US
Label Emergency Number: 201-878-7533

Procter & Gamble
Fabric & Home Care Division
Ivorydale Technical Center
5299 Spring Grove Avenue
Cincinnati, OH 45217-1087

MATERIAL SAFETY DATA SHEET

MSDS #: **FH/H/2002/GLGL-59YQJN** Issue Date: **5/13/02**
Supersedes: **FH/H/2001/TATJ-52VQNT** Issue Date: **3/26/02**

SECTION I - PRODUCT IDENTIFICATION

Identity: **Granular Laundry Detergent**

Brands: **TIDE (All Variations)**

Hazard Rating:			
	Health:	1	4= EXTREME
	Flammability:	0	3= HIGH
	Reactivity:	0	2= MODERATE
			1= SLIGHT

Emergency Telephone Number: 1-800-879-8433 or call Local Poison Control Center

SECTION II - COMPOSITION AND INGREDIENTS

Ingredients/Chemical Name: Tide: Biodegradable surfactants and enzymes.

Tide with Bleach: Biodegradable surfactants, enzymes and a color-safe oxygen bleach.

Hazardous Ingredients as defined by OSHA, 29 CFR 1910.1200., and/or WHMIS under the HPA:

Chemical Name	Common Name	CAS No.	Recommended Limits	Composition Range	LD50 and/or LC50
Sodium carbonate	Soda ash	497-19-8	N/K	15-40%	1.9 g/kg (rats, oral)
Subtilisin*	Proteolytic enzyme	9014-01-1	NIOSH/ACGIH STEL 0.00006 mg/m³	0.1-1.0%	> 5 g/kg (rats, oral)
Linear alkyl benzene sulfonate	C12.3 LAS	68081-81-2	N/K	3-7%	0.7-1.3 g/kg (rats, oral)
High solubility alkyl sulfate	Anionic surfactant	Proprietary	N/K	5-10%	2.1 g/kg (rats, oral)
Cellulase enzyme	Carezyme	9012-54-8	N/K	0.1-1.0%	> 5 g/kg (rats, oral)

Under normal consumer use, this product would not constitute a hazardous product under US OSHA Hazard Communication. With increased exposure (compared with consumer use) this mixture, when tested as a whole, is considered an inhalation hazard (enzymes) and an eye irritant within the meaning of the OSHA Hazard Communication Standard.

*Subtilisin is listed on Table Z-1-A (1989 Air Contaminants Rule - 29 CFR 1910.1000). Though Table Z-1-A was revoked on 6/30/93, the following U.S. states continue to enforce Table Z-1-A limits: Alaska, Connecticut, Minnesota, Michigan, New York, Tennessee, Vermont, and Washington. The OSHA STEL (as listed on Table Z-1-A) is 0.00006 mg/m3.

SECTION III - HAZARDS IDENTIFICATION

Health Hazards (Acute and Chronic):

Ingestion: May cause transient gastrointestinal irritation.

Eye Contact: Contact may cause mild, transient irritation.

Skin: None.

Inhalation: Heavy exposure to dust may cause transient respiratory tract irritation. Prolonged heavy exposure to dust may cause respiratory sensitization.

Signs and Symptoms of Exposure:

Ingestion: Possible mild gastrointestinal irritation with nausea, vomiting, and/or diarrhea.

Eye Contact: Eye contact with the product or its aqueous solution may produce transient superficial irritation.

Skin: None.

Inhalation: Heavy exposure to dust may cause transient respiratory tract irritation.

SECTION IV - FIRST AID INFORMATION

Emergency and First Aid Procedures:

Ingestion: Give milk or water.

Eye Contact: Flush eyes with water for 15 minutes.

Skin: Rinse exposed area with water.

Inhalation: Leave dusty area. In rare cases a respiratory reaction can occur which may include tightness of chest and difficulty breathing. If this occurs, seek medical attention immediately.

Other: Consumer product packages have a caution statement: "CAUTION: EYE IRRITANT. MAY BE HARMFUL IF SWALLOWED. In case of eye contact, flush with water. If swallowed, give a glassful of water or milk. Call a physician. KEEP OUT OF REACH OF CHILDREN."

SECTION V - FIRE FIGHTING INFORMATION

Flash Point: N/A **Explosive Limits**: *LEL:* N/A

Method Used: N/A *UEL:* N/A

Extinguishing Media: CO_2, water, or dry chemical may be used. Firefighters should be equipped with self-contained breathing apparatus to protect against potentially irritating or sensitizing fumes.

Special Fire Fighting Procedures: None.

Unusual Fire Hazards: None known.

Stability *Unstable*: ☐ *Conditions to Avoid*: Open flame.

Stable: ☒

Incompatibility (Materials to Avoid): None known.

Hazardous Decomposition/By Products: None known.

Hazardous Polymerization: *May Occur*: ☐ *Conditions to Avoid*: Open flame.

Will Not Occur: ☒

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Minimize dust levels while collecting product (see "Inhalation" health effects). Prevent exposure to dust with NIOSH approved respirators with HEPA filters. Use gloves to minimize skin contact.

Environmental Precautions: DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH ALL FEDERAL, STATE/PROVINCIAL AND LOCAL REGULATIONS. Small (household) solutions may be disposed of in sewer. Dry product may be landfilled if permitted by local regulations. Discard empty container in trash. Waste water containing product may be sewered in compliance with all federal and state/provincial regulations, and local ordinances.

Steps To Be Taken in Case Material is Released or Spilled: Review Personal Precautions, FIRE FIGHTING MEASURES, HANDLING AND STORAGE, and EXPOSURE CONTROL, PERSONAL PROTECTION sections before proceeding with clean-up. Use appropriate personal protective equipment during clean-up. Spilled material may be a slip hazard.

For Dry Spills, collect material in an approved container while minimizing dust generation. Vacuum, as appropriate, remaining dust on floor. Recycle or dispose of product, as necessary, in accordance with regulations and other requirements in this section.

Flush small (household) quantities down acceptable sanitary/process sewer. Wipe up small spills with a damp cloth. Dispose of according to local regulations.

SECTION VII - HANDLING AND STORAGE

Precautions To Be Taken in Handling and Storing: Avoid skin contact and breathing product dust. Store in a cool, dry place. Keep product dry to maintain free-flowing granules.

Other Precautions: None.

SECTION VIII - EXPOSURE CONTROLS, PERSONAL PROTECTION

This section only applies to the product when used in an industrial setting.

Respiratory Protection (Specify Type): Industrial use may require a NIOSH approved respirator with HEPA filters.

Ventilation: *Local Exhaust:* Industrial use may require LEV.

Special: None.

Mechanical (General): General dilution ventilation is adequate.

Other: None.

Eye Protection: If a splash of product in solution is likely, chemical goggles may be needed.

Protective Gloves: Protective gloves (rubber, neoprene) should be used for any prolonged direct contact.

Other Protective Equipment: Protective disposable suits may be required under heavy industrial dust conditions.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (°F): N/A

Vapor Pressure (mm Hg): N/A

Vapor Density (Air=1): N/A

Odor Threshold: N/A

Coefficient of Water/Oil Distribution: N/A

Viscosity: N/A

Scooped Density: ~556-663 g/L

Appearance and Odor: Tide: White powder. Product is perfumed.

Tide with Bleach: White powder with blue speckles. Product is perfumed.

Specific Gravity (H_2O=1): N/A

Percent Volatile by Volume (%): N/A

Evaporation Rate (nBuOAc=1): N/A

Freezing Point: N/A

pH (1% solution): ~10-11

Reserve Alkalinity: ~4-5

Solubility in Water: Mostly soluble at 20°C.

Physical State: Solid granules at 20°C.

SECTION X - STABILITY AND REACTIVITY

Possible Hazardous Reactions/Conditions: None known.

Conditions to Avoid: Open flame.

Materials to Avoid: None known.

Hazardous Decomposition Products: None known.

Other Recommendations: None.

SECTION XI - TOXICOLOGICAL INFORMATION

LD50 (rats oral): 2.8 - 7.1 g/kg

ED50 approx. 15-119 mg/kg

SECTION XII - ECOLOGICAL INFORMATION

No concerns at relevant environmental concentrations. This product contains an anionic surfactant that has an aquatic 96 hr LC50 of 0.92 ppm (*Pimephales promelas*, OECD 203 test). This is the lowest L/EC50 amongst fish, Daphina and algae. This surfactant is rapidly biodegradable under aerobic and anaerobic conditions (protocols: OECD 301-B and ECETOC 1988, respectively). The levels of biodegradation in these standard test conditions are >70%. Its removal in municipal sewage treatment is expected to be >99% based on standard laboratory test methods. Environmental risk assessment confirms comfortable safety margins because of its high removal and fast biodegradability kinetics.

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method: DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH ALL FEDERAL, STATE/PROVINCIAL AND LOCAL REGULATIONS. Dry product from consumer may be landfilled. Industrial dry product may be landfilled if permitted by local regulations or may be incinerated if landfill disposal is not allowed.

Consumer may discard empty container in trash. Industrial producer may discard empty, individual containers in trash. Multiple empty and/or damaged containers should be compacted and landfilled, in accordance with all applicable regulations, or incinerated.

Consumer produced household solutions may be disposed of to sewer. Industrial waste water containing product may be sewered if in compliance with all federal, and state/provincial regulations and local ordinances.

SECTION XIV - TRANSPORT INFORMATION

The finished product is non-hazardous under DOT.

SECTION XV - ADDITIONAL REGULATORY INFORMATION

All intentionally-present components are listed on the US TSCA Inventory.

This product is not subject to warning labeling under California Proposition 65.

No components are affected by Significant New Use Rules (SNURs) under TSCA §5.

Sodium carbonate (497-19-8) is listed on the Canadian WHMIS Ingredient Disclosure List (IDL) as item number 1431, with a threshold of 1%.

All ingredients are CEPA approved for import to Canada by Procter & Gamble. This product has been classified with Hazard Criteria of the Canadian Controlled Products Regulation (CPR) and this MSDS contains all information required by the Canadian Products Regulation.

SECTION XVI - OTHER INFORMATION

****N/A. - Not Applicable** ****N/K. - Not Known**

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.

The information contained herein has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. The information relates to the specific material designated herein, and does not relate to the use in combination with any other material or any other process. Procter & Gamble assumed no responsibility for injury to the recipient or third persons, for any damage to any property resulting from misuse of the controlled product.

Material Safety Data Sheet

24-Hour Emergency Telephone Numbers
HEALTH : Chevron Emergency Information Center (800) 231-0623 or (510) 231-0623
TRANSPORTATION : CHEMTREC (800) 424-9300 or (703) 527-3887
Emergency Information Centers are located in the U.S.A. International collect calls accepted.

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

TEXACO Havoline DEX-COOL Extended Life Anti-Freeze/Coolant

Product Number(s): CPS227994

Company Identification
ChevronTexaco Global Lubricants
6001 Bollinger Canyon Road
San Ramon, CA 94583

Product Information
Product Information: 800-LUBE-TEK
email : lubemsds@chevron.com

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Ethylene Glycol	107-21-1	80 - 96.99 %weight
Diethylene glycol	111-46-6	1 - 4.99 %weight
Potassium 2-ethylhexanoate	3164-85-0	1 - 4.99 %weight
Water	7732-18-5	1 - 2.99 %weight

SECTION 3 HAZARDS IDENTIFICATION

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EMERGENCY OVERVIEW

Orange liquid. Mild odor.

- HARMFUL OR FATAL IF SWALLOWED
- CAUSES EYE IRRITATION
- MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS BASED ON ANIMAL DATA
- POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL THAT MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA
- MAY CAUSE DAMAGE TO:
- KIDNEY

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IMMEDIATE HEALTH EFFECTS

Eye: Contact with the eyes causes irritation. Symptoms may include pain, tearing, reddening, swelling and impaired vision.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Toxic; may be harmful or fatal if swallowed.
Inhalation: The vapor or fumes from this material may cause respiratory irritation. Symptoms of

respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER HEALTH EFFECTS:
Reproduction and Birth Defects: May cause adverse reproductive effects based on animal data. Contains material that may be harmful to the developing fetus based on animal data.

Target Organs: Repeated ingestion of this material may cause damage to the following organ(s) based on animal data. Kidney

See Section 11 for additional information. Risk depends on duration and level of exposure.

SECTION 4 FIRST AID MEASURES

Eye: Flush eyes with water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get medical attention if irritation persists.
Skin: To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.
Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue.

SECTION 5 FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:
OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 2 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:
Flashpoint: (Pensky-Martens Closed Cup) 260 °F (127 °C)
Autoignition: 752 °F (400 °C)
Flammability (Explosive) Limits (% by volume in air): Lower: 3.2 Upper:

EXTINGUISHING MEDIA: Dry Chemical, CO2, AFFF Foam or alcohol resistant foam.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Potassium .

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove

contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Wash thoroughly after handling. Do not get in eyes. Do not breathe vapor or fumes.
General Handling Information: Do not taste or swallow antifreeze or solution. Keep out of the reach of children and animals.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating an accumulation of electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.
General Storage Information: Do not store in open or unlabeled containers.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, 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, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: Wear eye protection such as safety glasses, chemical goggles, or faceshields if engineering controls or work practices are not adequate to prevent eye contact.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).
Respiratory Protection: Determine if airborne concentrations are below the recommended exposure limits. If not, wear an approved respirator that provides adequate protection from measured concentrations of this material, such as: Air-Purifying Respirator for Organic Vapors, Dusts and Mists. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not

provide adequate protection.

Occupational Exposure Limits:

Component	Limit	TWA	STEL	Ceiling	Notation
Ethylene Glycol	ACGIH_TLV			100 mg/m3	
Ethylene Glycol	OSHA_PEL			125 mg/m3	

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Orange liquid. Mild odor.
pH: 8 - 8.6
Vapor Pressure: <0.01 mmHg @ 20 °C
Vapor Density (Air = 1): 2.1
Boiling Point: 228 °F (109 C) (Typical)
Solubility: Miscible
Freezing Point: -34 °F (-37 C)
Melting Point: NDA
Specific Gravity: 1.12 @ 15.6 °C / 15.6 °C
Viscosity: 8 cSt @ 40 °C

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: Aldehydes (Elevated temperatures)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.
Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.
Skin Sensitization: No product toxicology data available.
Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count,

and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

This product contains diethylene glycol (DEG). The estimated oral lethal dose is about 50 cc (1.6 oz) for an adult human. DEG has caused the following effects in laboratory animals: liver abnormalities, kidney damage and blood abnormalities. It has been suggested as a cause of the following effects in humans: liver abnormalities, kidney damage, lung damage and central nervous system damage.

2-Ethylhexanoic acid (2-EXA) caused an increase in liver size and enzyme levels when repeatedly administered to rats via the diet. When administered to pregnant rats by gavage or in drinking water, 2-EXA caused teratogenicity (birth defects) and delayed postnatal development of the pups. Additionally, 2-EXA impaired female fertility in rats. Birth defects were seen in the offspring of mice who were administered sodium 2-ethylhexanoate via intraperitoneal injection during pregnancy.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

ENVIRONMENTAL FATE
This material is expected to be readily biodegradable.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Name: NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR
DOT Hazard Class: NOT APPLICABLE
DOT Identification Number: NOT APPLICABLE
DOT Packing Group: NOT APPLICABLE

SECTION 15 REGULATORY INFORMATION

SARA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	YES
2.	Delayed (Chronic) Health Effects:	YES
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

4_I1=IARC Group 1	12=TSCA Section 8(a) PAIR	21=TSCA Section 5(a)
4_I2A=IARC Group 2A	13=TSCA Section 8(d)	25=CAA Section 112 HAPs
4_I2B=IARC Group 2B	15=SARA Section 313	26=CWA Section 311
05=NTP Carcinogen	16=CA Proposition 65	28=CWA Section 307
06=OSHA Carcinogen	17=MA RTK	30=RCRA Waste P-List
09=TSCA 12(b)	18=NJ RTK	31=RCRA Waste U-List
10=TSCA Section 4	19=DOT Marine Pollutant	32=RCRA Appendix VIII
11=TSCA Section 8(a) CAIR	20=PA RTK	

The following components of this material are found on the regulatory lists indicated.

Diethylene glycol	25
Ethylene Glycol	15, 17, 18, 20, 25

CERCLA REPORTABLE QUANTITIES(RQ)/SARA 302 THRESHOLD PLANNING QUANTITIES(TPQ):

Component	Component RQ	Component TPQ	Product RQ
Ethylene Glycol	5000 lbs	None	5440 lbs

CHEMICAL INVENTORIES:

AUSTRALIA: All the components of this material are listed on the Australian Inventory of Chemical Substances (AICS).

PEOPLE'S REPUBLIC OF CHINA: All the components of this product are listed on the draft Inventory of Existing Chemical Substances in China.

EUROPEAN UNION: All the components of this material are in compliance with the EU Seventh Amendment Directive 92/32/EEC.

KOREA: All the components of this product are on the Existing Chemicals List (ECL) in Korea.

PHILIPPINES: All the components of this product are listed on the Philippine Inventory of Chemicals and Chemical Substances (PICCS).

UNITED STATES: All of the components of this material are on the Toxic Substances Control Act (TSCA) Chemical Inventory.

NEW JERSEY RTK CLASSIFICATION:

Refer to components listed in Section 2.

WHMIS CLASSIFICATION:

Class D, Division 1, Subdivision B: Toxic Material -
Acute Lethality
Class D, Division 2, Subdivision A: Very Toxic Material -
Chronic Toxic Effects
Reproductive Toxicity
Teratogenicity and Embryotoxicity
Class D, Division 2, Subdivision B: Toxic Material -
Skin or Eye Irritation

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 2 Flammability: 1 Reactivity: 0
HMIS RATINGS: Health: 2* Flammability: 1 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: This revision updates Section 1 (Product Identification), Section 2 (Composition/Ingredient Information), Section 5 (Fire Fighting Measures), Section 11 (Toxicological Information), and Section 15 (Regulatory Information).

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV	-	Threshold Limit Value	TWA	-	Time Weighted Average
STEL	-	Short-term Exposure Limit	PEL	-	Permissible Exposure Limit
			CAS	-	Chemical Abstract Service Number
NDA	-	No Data Available	NA	-	Not Applicable
<=	-	Less Than or Equal To	>=	-	Greater Than or Equal To

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1).

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Material Safety Data Sheet

IDENTITY *(as Used on Label and List)*

DEXPAN (Non-Explosive Demolition Agent by silent cracking)

Section I

Manufacturer's name: Archer Company USA, Inc.	Emergency Telephone Number: 505-874-9188 (USA)
Address *(Number, Street, City, State and ZIP Code)*	Telephone Number for Information: 505-874-9199 (USA)
2800 Airport Road, Suite N	Date Prepared: May 18, 2004 (Revised Mar 28, 2006)
Santa Teresa, NM 88008 USA	Signature of Preparer *(optional)*

Section II—Hazardous Ingredients / Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
1) HAZARDOUS COMPONENTS: NONE				
2) NON-HAZARDOUS CHEMICAL COMPOUNDS: (% by Weight)				
* 2.1) Silicon Dioxide (SiO_2) 4.99%		2.5) MgO 1.38%		
2.2) Aluminum Oxide (Al_2O_3) 1.74%				
2.3) Ferric Oxide (Fe_2O_3) 2.44%				
2.4) Calcium Oxide (CaO) 88.76%				
* The Silicon Dioxide Contained in Dexpan is AMORPHOUS. TOTAL: 99.31%				

DEXPAN works without any vibration, noise, flying rock, dust and toxic gases by providing silent cracking. DEXPAN is environmentally safe. Proper application of DEXPAN is not harmful to fresh water sources (lake, river), plants (trees, grass), animals (fish, birds or other wildlife).

Section III—Physical/Chemical Characteristics

Boiling Point	Not Applicable	Specific Gravity (H_20 = 1)	3.20
Vapor Pressure (mm Hg)	Not Applicable	Melting Point	1000°C
Vapor Density (AIR = 1)	Not Applicable	Evaporation Rate (Butyl Acetate = 1)	Not Applicable

Solubility in Water: Slight

Appearance and Odor: Gray Powder, No Odor

Section IV—Fire and Explosion Hazard Data

Flash Point (Method Used): Not Applicable	Flammable Limits: Not Applicable	LEL	UEL
Extinguishing Media: Not Applicable			
Special Fire Fighting Procedures: Not Applicable			
Unusual Fire and Explosion Hazards: When mixed with water, the product expands under high temperature development. (Interior Temperature Approx. 305°F Max.)			

Section V—Reactivity Data

Stability			Conditions to Avoid
	Unstable		Not Applicable
	Stable	YES	

Incompatibility *(Materials to Avoid)* Water (Only Storage)

Hazardous Decomposition or Byproducts None

Hazardous Polymerization			Conditions to Avoid
	May Occur		Not Applicable
	Will Not Occur	YES	

Section VI—Health Hazard Data

Route(s) of Entry Inhalation? Avoid Skin? Avoid Ingestion? Avoid Eye Contact? Avoid

Health Hazards *(Acute and Chronic)*

1. Skin and eye contact: Irritation, Burn

2. Inhalation and Ingestion: The same symptoms as getting cement or quicklime will appear.

Carcinogencity	NTP?	IARC Monographs?	OSHA Regulated?
	Not Applicable	Not Applicable	Not Applicable

Signs and Symptoms of Exposure

Since the product is an alkali material, skin etc. may be irritated.

Medical Conditions

Generally Aggravated by Exposure. Skin and eyes may be irritated and burn unless immediately rinsed off.

Emergency and First Aid Procedures

If the skin comes in contact with the product, rinse it off with clean water immediately.
If eyes come in contact with it, rinse it off with clean water immediately, and consult with a doctor as soon as possible.

Section VII—Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled

1. Gather the released or spilled product with a broom or a shovel.
2. Mix it with a large amount of water.
3. Sprinkle it onto open ground.

Waste Disposal Method

1. Mix it with a large amount of water
2. Sprinkle it onto open ground.

Precautions to Be Taken in Handling and Storing

Store the product under dry condition, always wear safety goggles for eye protection, dust-proof mask and rubber gloves.

Other Precautions

When mixing the product with water, do not get close to holes filled with the mixture of the product and water to avoid any accident to be caused by blow-out.

Section VII—Control Measures

Respiratory Protection *(Specify Type)* It is recommended to wear ordinary dust-proof mask.

Ventilation	Local Exhaust	Special
	Not Applicable	Not Applicable
	Mechanical *(General)* Not Applicable	Other Not Applicable

Protective Gloves	Eye Protection
Ordinary Rubber Gloves	Safety Goggles

Other Protective Clothing or Equipment Not Applicable

Work/Hygienic Practices Not Applicable