

MATERIAL SAFETY DATA SHEET

(USA)

(Complies with USA OSHA 29 CFR 1910.1200 and ANSI Z 400.1)

Version: 3

Revision date: 17 February 2010

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product code: L064
Product name: Temporary Clay Stabilizer L64
Company identification: Schlumberger Technology Corporation
110 Schlumberger Drive
Sugar Land, Texas 77478, USA
Telephone: 1-281-285-7873
Emergency telephone number: USA: +1-281-595-3518 (24hr)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER

Main physical hazards: No classified physical hazards.
Main health hazards: Toxic by ingestion. May be fatal if swallowed. Harmful on contact with skin. Irritating to eyes and skin. May cause respiratory tract irritation.
Precautions: Avoid contact with eyes. Do not get on skin or clothing. Wash thoroughly after handling.
HMIS classification: Health: 3 Flammability: 1 Physical hazard: 0

Form: Liquid **Color:** Colorless **Odor:** None
Principle routes of exposure:
Eye contact. Skin contact.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS-No | Weight %- Range |
|------------------------------|---------|-----------------|
| Tetramethylammonium chloride | 75-57-0 | 30 - 60 |

4. FIRST AID MEASURES

Eye contact: Immediately flush eyes with water for 30 minutes while holding eyelids open. Call a physician immediately.
Skin contact: Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Seek medical attention at once.
Ingestion: Do not induce vomiting without medical advice. Call a physician or Poison Control Center immediately. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, minimize the risk of aspiration by properly positioning the affected person.

Inhalation: Move to fresh air. If breathing has stopped or heart has stopped, trained personnel should immediately administer artificial respiration or CPR, as required. Seek medical attention at once.

5. FIRE-FIGHTING MEASURES

Fire hazard: Negligible.
Flash point: Does not flash.
Method: Not applicable
Autoignition temperature: No data available.
Flammability limits in air:
Lower: Not applicable
Upper: Not applicable
Oxidizing properties: None.

Suitable extinguishing media:
Water Fog, Alcohol Foam, CO₂, Dry Chemical. Water spray.

Extinguishing media which must not be used for safety reasons:
None known.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases:
Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment for firefighters:
Wear protective fire fighting clothing and avoid breathing vapors. Use self-contained breathing apparatus in closed areas.

NFPA rating:
Health: 3
Flammability: 1
Instability: 0
Special: None

6. ACCIDENTAL RELEASE MEASURES

Main physical hazards: No classified physical hazards.
Personal precautions: Do not get on skin or clothing. Wash thoroughly after handling. Do not breathe vapors or spray mist. Avoid contact with eyes. Wear suitable protective equipment.
Methods for cleaning up: Dam up. Soak up with inert absorbent material. Put into suitable containers for disposal.
Environmental precautions: Keep out of waterways. Prevent entry into sewage.

7. HANDLING AND STORAGE

Handling:
Precautions: Avoid contact with eyes. Do not get on skin or clothing. Wash thoroughly after handling.
Safe handling advice: Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Wear suitable protective equipment.
Technical measures/ storage conditions: Store in well ventilated area out of direct sunlight.

Packaging requirements: Steel or high density polyethylene (HDPE) container.
Incompatible products: Oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure: Control the source.

Hygiene measures: Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. Use NIOSH approved respirator with organic vapor protection (color coded black or yellow). Use SCBA (self contained breathing apparatus) in confined areas.

Eye protection: Tightly fitting safety goggles.

Hand protection: Impervious gloves. Rubber gloves.

Skin and body protection: Chemical resistant apron. For spills and emergencies, also wear boots and impervious suit.

Occupational Exposure Limits

| Component | ACGIH - TLVs | | | OSHA - PELs | | |
|------------------------------|---------------|------|--------------|-------------|------|-------------------|
| | TWA / Ceiling | STEL | ACGIH - Skin | TWA / C | STEL | Final PELs - Skin |
| Tetramethylammonium chloride | - | - | - | - | - | - |

Particles Not Otherwise Regulated/Specified [PNOR or PNOS] (insoluble or poorly soluble):
 - OSHA PEL's for Inert or Nuisance Dust are covered by PNOR limits: respirable fraction: 5 mg/m³; total dust 15 mg/m³.
 ACGIH PNOS Recommendations: airborne concentrations should be kept below 3 mg/m³, respirable particulate, and 10 mg/m³, inhalable particles.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|------------------------------------|
| Chemical characterization: | Aqueous solution of organic salts. |
| Fire hazard: | Negligible. |
| Form: | Liquid |
| Color: | Colorless |
| Odor: | None |
| Odor threshold: | Not applicable. |
| pH: | 7 |
| Boiling point/range: | No data available. |
| Flash point: | Does not flash. |
| Method: | Not applicable. |
| Flammability limits in air: | |
| Lower: | Not applicable |
| Upper: | Not applicable |
| Bulk density: | Not applicable. |
| Melting point/range: | -34 °C / -30 °F |
| Decomposition temperature: | No data available. |
| Solubility: | |
| Water solubility: | Soluble. |
| Fat solubility: | No information available. |
| Partition coefficient (n-octanol/water): | Not applicable. |
| Relative density: | 1.0 (@ 20°C) |
| Vapor pressure: | No data available. |
| Vapor density: | No data available. |
| Viscosity: | 6 mPa.s |
| Evaporation rate: | No data available. |
| % Volatile (VOC): | None. |

10. STABILITY AND REACTIVITY**Stability:**

Stable under recommended storage conditions.

Conditions to avoid:

None reasonably foreseeable.

Incompatibility with other substances:

Oxidizers.

Hazardous decomposition products:

If heated strongly or burned, oxides of carbon and nitrogen, ammonia, chlorine oxides, hydrogen chloride and organic fumes are released.

Hazardous polymerization:

Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION**PRODUCT TOXICOLOGICAL INFORMATION**

Information given is based on data on the components and the toxicology of similar products.

Acute Health Hazard

| | |
|------------------------------|---|
| Eye contact: | Severe eye irritation. Causes pain and redness. Prolonged or repeated contact may cause mild burn. |
| Skin contact: | Harmful in contact with skin. Irritant; may cause pain, redness, dermatitis. |
| Ingestion: | Toxic; can cause illness or death. Irritant; may cause pain or discomfort to mouth, throat and stomach. |
| Inhalation: | Irritant; may cause pain and coughing. |
| Sensitization - lung: | Not known to cause allergic reaction. |
| Sensitization - skin: | Not known to cause allergic reaction. |

Chronic Health Hazard

| | |
|-------------------------------|--|
| Carcinogenic effects: | None known. |
| Mutagenic effects: | Not known to cause heritable genetic damage. |
| Teratogenic effects: | Not known to cause birth defects or have a deleterious effect on a developing fetus. |
| Reproductive toxicity: | Not known to adversely affect reproductive functions and organs. |
| Target organ effects: | None known. |

COMPONENT TOXICOLOGICAL INFORMATION

| Component | Target Organ Effects | LD50 / LC50 |
|------------------------------|----------------------|-----------------------------|
| Tetramethylammonium chloride | - | = 50 mg/kg (Oral LD50; Rat) |

| Component | IARC Group 1 or 2: | ACGIH - Carcinogens: | OSHA Listed Carcinogens | NTP: |
|------------------------------|--------------------|----------------------|-------------------------|------|
| Tetramethylammonium chloride | - | - | - | - |

| Component | OTHER TOXICOLOGICAL INFORMATION |
|------------------------------|---|
| Tetramethylammonium chloride | Toxic by ingestion. LD50 (oral, rat) = 50 mg/kg. Harmful in contact with skin. Irritating to eyes, respiratory system and skin. |

12. ECOLOGICAL INFORMATION**PRODUCT INFORMATION****COMPONENT INFORMATION**

| | |
|-------------------------------------|--|
| Tetramethylammonium chloride | |
| Bioaccumulation: | log Pow = <0 |
| Crustacean toxicity: | 48h LC50= <1 mg/l (Acartia tonsa) |
| Freshwater Fish Species Data | LC50 96 h (Pimephales promelas) = 431-495 mg/L |

13. DISPOSAL CONSIDERATIONS**Waste from residues / unused products:**

Dispose of by injection or other acceptable method in accordance with local regulations.

Contaminated packaging:

Triple rinse, crush and ship to sanitary landfill unless prohibited by local regulations. If reusable containers are used, send them back to the product supplier, after the required rinsing.

EPA RCRA Hazardous Waste Code:

None

14. TRANSPORT INFORMATION**DOT:**

UN/NA Number: UN 2810
CERCLA RQ: Not established

Hazard class: 6.1
Proper shipping name: Toxic liquid, organic, n.o.s. (contains tetramethylammonium chloride), 6.1, UN 2810, PG III
Label(s): Toxic 6.1

IMDG/IMO

Shipping name: TOXIC LIQUID, ORGANIC, N.O.S. (Tetramethylammonium chloride)
Label(s): Toxic 6.1
Class or Div.: 6.1
UN number: UN 2810
Packing group: III
EMS: F-A, S-A

ICAO/IATA

Shipping name: Toxic liquid, organic, n.o.s. (contains tetramethylammonium chloride)
Label(s): Toxic 6.1
Class or Div.: 6.1
UN number: UN 2810
Packing group: III
Packing instruction (passenger aircraft): 611 **Max Net Qty/Pkg:** 60 L
Packing instruction (cargo aircraft): 618 **Max Net Qty/Pkg:** 220 L

TDG (Canada):

Shipping name: TOXIC LIQUID, ORGANIC, N.O.S. (contains tetramethylammonium chloride), 6.1, UN 2810, PG III
Label(s): Toxic 6.1
PIN: UN 2810
Class: 6.1

Note 1:

For the applicable placard selection refer to the appropriate transport regulations; the selection may vary depending on the cargo size and categories of other hazardous materials in the cargo.

15. REGULATORY INFORMATION**International Chemical Inventories**

USA, Toxic Substances Control Act inventory (TSCA): This product complies with TSCA requirements.

IMPORTS, USA: No import volume restrictions.

Canada, Domestic Substance List (DSL): This product complies with DSL requirements.

IMPORTS, Canada: No import volume restrictions.

U.S.A. Regulations**OSHA Hazard Communication Standard:**

(Complies with USA OSHA 29 CFR 1910.1200 and ANSI Z 400.1)

EPA RCRA Hazardous Waste Code:

None

EPA, Sections 311 and 312 - Material Safety Data Sheet Requirements (40 CFR 370):

| | |
|---|------|
| Immediate (Acute) Health Hazard: | YES |
| Delayed (Chronic) Health Hazard: | None |
| Fire Hazard: | None |
| Sudden Release or Pressure Hazard: | None |
| Reactive Hazard: | None |

EPA, Sections 313 - List of Toxic Chemicals (40 CFR 372):

This product contains the following substance(s), which appear(s) on the List of Toxic Chemicals:

Additional Regulatory Information

Tetramethylammonium chloride

EPA, CERCLA Section 102a/103 Hazardous Substances (40 CFR 302.4): None

CERCLA/SARA - Hazardous Substances and their RQs: None

EPA, SARA TITLE III Section 304, Extremely Hazardous Substances (40 CFR 355.40): None

California Proposition 65: None

International Hazard Class**WHMIS Hazard Class:**

D1B (Immediate and Serious Toxic Effects - Toxic Material)

D2B (Other Toxic Effects - Toxic Material)

16. OTHER INFORMATION**Current references:**

1. Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices. *American Conference of Governmental Industrial Hygienists, Cincinnati OH.*
2. IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man. *World Health Organization, International Agency for Research on Cancer. Geneva, Switzerland.*
3. Annual Report on Carcinogens. National Toxicology Program. *U.S. Department of Health and Human Services, Public Health Service.*
4. NIOSH Registry of Toxic Effects of Chemical Substances (RTECS). *National Institute for Occupational Safety and Health. Cincinnati, OH.*
5. LOLI Database.

Explanation of terms:

| | |
|------------|--|
| ACGIH: | American Conference of Governmental Industrial Hygienist |
| ACGIH-TL: | Threshold Limit Value |
| DSL: | Domestic Substance List |
| HMIRC: | Hazardous Materials Information Review Commission |
| IARC: | International Agency for Research on Cancer |
| NTP: | National Toxicology Program |
| NIOSH: | National Institute of Occupational Safety & Health |
| NIOSH-REL: | Recommended Exposure Limit |
| OSHA: | Occupational Safety & Health Administration |
| OSHA-PEL: | Permissible Exposure Limit |
| TSCA: | Toxic Substance Control Act (Inventory) |

Occupational Exposure Limits indicators: TWA - Time Weighted Average; STEL - Short Term Limit; C - Ceiling Limit; units: [mg/m³]

ACGIH Notations:

"Skin" refers to the potential significant contribution to the overall exposure by the cutaneous route, including mucous membranes and the eyes, either by contact with vapors or by direct skin contact with the substance.

"A" notation indicates carcinogenicity as follows:

ACGIH classification: A1 - Confirmed Human Carcinogen; A2 - Suspected Human Carcinogen; A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans; A4 - Not Classifiable as a Human Carcinogen; A5 - Not suspected as a Human Carcinogen.

"SEN" refers to the potential for an agent to product sensitization as confirmed by human and animal data.

Section(s) revised: 16

Prepared by: Chemical Regulatory Compliance (CRC)

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End of the Material Safety Data Sheet