

MATERIAL SAFETY DATA SHEET

(USA)

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

Version: 4

Revision date: 11 April 2010

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

Product code: J532
Product name: Borate Crosslinker J532
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

Main physical hazards: No classified physical hazards.
Main health hazards: Swallowing large amounts may be harmful.
Precautions: No special precautions required.
HMIS classification: Health: 0 Flammability: 0 Physical hazard: 0

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %- Range
Aliphatic polyol	Proprietary	15 - 40
Sodium tetraborate decahydrate	1303-96-4	10 - 30

4. FIRST AID MEASURES

Eye contact: Rinse immediately with plenty of water, also under the eyelids. Seek medical attention if irritation occurs.
Skin contact: Rinse with water.
Ingestion: If swallowed, do not induce vomiting - seek medical advice. Never give anything by mouth to an unconscious person.
Inhalation: Move to fresh air. Consult a physician if necessary.

5. FIRE-FIGHTING MEASURES

Fire hazard: Negligible.
Flash point: >100 °C / 212 °F
Autoignition temperature: No data available.

Flammability limits in air:**Lower:** Not applicable**Upper:** Not applicable**Oxidizing properties:** None.**Suitable extinguishing media:**

Use extinguishing media appropriate for surrounding material.

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:** 0**Flammability:** 1**Instability:** 0**Special:** None**6. ACCIDENTAL RELEASE MEASURES****Main physical hazards:** No classified physical hazards.**Personal precautions:** Avoid contact with eyes.**Methods for cleaning up:** Dam up. Soak up with inert absorbent material. Shovel into suitable container for disposal. After cleaning, flush away traces with water.**Environmental precautions:** Prevent further leakage or spillage.**7. HANDLING AND STORAGE****Handling:****Precautions:** No special precautions required.**Safe handling advice:** Keep airborne concentrations below exposure limits. Do not breathe vapors or spray mist.**Technical measures/
storage conditions:** No special storage conditions required.**Packaging requirements:** Uncoated phosphatized steel drum; high density polyethylene (HDPE) can for short term storage only.**Incompatible products:** Strong acids. Oxidizing agents.**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Engineering measures
to reduce exposure:** No special technical protective measures required.**Hygiene measures:** Keep airborne concentrations below exposure limits.**Respiratory protection:** In case of insufficient ventilation, wear suitable respiratory equipment. If dust or mist is generated use NIOSH approved respirator with dust and mist protection (3M 8210).**Eye protection:** It is good practice to wear goggles when handling any chemical.

Hand protection: Rubber gloves.
Skin and body protection: Clean, body-covering clothing.

Occupational Exposure Limits

Component	ACGIH - TLVs			OSHA - PELs		
	TWA / Ceiling	STEL	ACGIH - Skin	TWA / C	STEL	Final PELs - Skin
Aliphatic polyol	10 mg/m ³	-	-	5 mg/m ³ TWA 15 mg/m ³ TWA	-	-
Sodium tetraborate decahydrate	2 mg/m ³	6 mg/m ³	-	-	-	-

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 and inorganic compounds.
Fire hazard: Negligible.
Form: Liquid
Color: Colorless
Odor: None
Odor threshold: Not applicable.
pH: ~ 7 - 8
Boiling point/range: >100°C / 212 °F
Flash point: >100 °C / 212 °F
Flammability limits in air:
Lower: Not applicable
Upper: Not applicable
Bulk density: Not applicable.
Melting point/range: -9 °C / 15 °F
Decomposition temperature: No data available.
Solubility:
Water solubility: Soluble.
Fat solubility: No information available.
Partition coefficient (n-octanol/water): No information available.
Relative density: 1.1 (@ 25°C)
Vapor pressure: No data available.
Vapor density: No data available.
Viscosity: No data available.
Evaporation rate: No data available.
% Volatile (VOC): None.

10. STABILITY AND REACTIVITY

Stability:
 Stable under recommended storage conditions.

Conditions to avoid:
 None known.

Incompatibility with other substances:

Strong acids. Oxidizers.

Hazardous decomposition products:

When heated strongly or burned, oxides of carbon and harmful organic chemical 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:	No effect expected.
Skin contact:	No effect expected.
Ingestion:	Accidental ingestion of small amounts is not expected to cause adverse effects. Swallowing large amounts may be harmful.
Inhalation:	This is an unlikely route of exposure. No effect expected. Prolonged or repeated exposure may cause mild irritation.
Sensitization - lung:	Not known to cause allergic reaction.
Sensitization - skin:	Not known to cause allergic reaction.
Toxicologically synergistic products:	None known.

Chronic Health Hazard

Carcinogenic effects:	None known.
Mutagenic effects:	See COMPONENT TOXICOLOGICAL INFORMATION below.
Teratogenic effects:	See COMPONENT TOXICOLOGICAL INFORMATION below.
Reproductive toxicity:	See COMPONENT TOXICOLOGICAL INFORMATION below.
Target organ effects:	See COMPONENT TOXICOLOGICAL INFORMATION below.

COMPONENT TOXICOLOGICAL INFORMATION

Component	Target Organ Effects	LD50 / LC50
Aliphatic polyol	respiratory system skin eyes kidneys	> 21900 mg/kg (Dermal LD50; Rat) > 570 mg/m ³ (Inhalation LC50; Rat) 1 h = 12600 mg/kg (Oral LD50; Rat)
Sodium tetraborate decahydrate	respiratory system, skin, eyes	= 2660 mg/kg (Oral LD50; Rat) 2 mg/m ³

Component	IARC Group 1 or 2:	ACGIH - Carcinogens:	OSHA Listed Carcinogens	NTP:
Aliphatic polyol	-	-	-	-
Sodium tetraborate decahydrate	-	A4 - Not Classifiable as a Human Carcinogen	-	-

Component	OTHER TOXICOLOGICAL INFORMATION
Sodium tetraborate decahydrate	Mutagenic effect observed in insect studies. Reproductive organs effect observed in controlled animal studies.

12. ECOLOGICAL INFORMATION**PRODUCT INFORMATION**

Aquatic toxicity: Low toxicity to fish.

COMPONENT INFORMATION

Aliphatic polyol

Bioaccumulation: log Pow = -1.76
Persistence / degradability: Biodegradable.
Freshwater Fish Species Data LC50 96 h (Oncorhynchus mykiss) = 51-57 mg/L
Water Flea Data: EC50 24 h (Daphnia magna) = >500 mg/L

Sodium tetraborate decahydrate

Bioaccumulation: Not applicable
Persistence / degradability: Not applicable.

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

Dispose of in accordance with local regulations.

Contaminated packaging:

Dispose of in accordance with 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:**

CERCLA RQ: None
Hazard class: Not regulated.
Proper shipping name: Not regulated
Label(s): None required.

IMDG/IMO

Shipping name: Not regulated.

UN number: None

ICAO/IATA

Shipping name: Not regulated.

UN number: None

TDG (Canada):

Shipping name: Not regulated.
PIN: None

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:	None
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

Aliphatic polyol

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

Sodium tetraborate decahydrate

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:
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.

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End of the Material Safety Data Sheet