

**Material Safety Data Sheet****BXL 10C**

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		1
PERSONAL PROTECTION		D

1. Product and Company Identification

Material name	BXL 10C
Version #	16
Issue date	January-25-2013
Revision date	January-28-2013
Supersedes date	January-28-2013
CAS #	Mixture
Product use	Borate Cross-linker
Manufacturer information	Weatherford® 2000 St. James Place Houston, TX 77056 United States Email: productsafety.compliance@weatherford.com Weatherford Information Line: 713-836-4000

Supplier information	Producers Service Corp. 109 South Graham St. Zanesville, OH 43701 US
Supplier emergency telephone number(s)	24hr customer Service 740-454-6253

2. Hazards Identification

Emergency overview	DANGER -- CORROSIVE Combustible liquid and vapor. Causes skin and eye burns. Harmful if swallowed. May cause central nervous system effects. May cause reproductive effects. Kidney injury may occur. Liver injury may occur.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Eye contact. Skin contact. Ingestion. Inhalation.
Eyes	Causes eye burns. Do not get this material in contact with eyes.
Skin	Causes skin burns. Components of the product may be absorbed into the body through the skin. Do not get this material in contact with skin.
Inhalation	May cause irritation of respiratory tract. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Do not inhale/breathe vapors.
Ingestion	Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts. May cause dizziness, incoordination, headache, nausea, and vomiting. Do not ingest.
Target organs	Central nervous system. Reproductive organs. Respiratory system. Liver. Kidney.



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Chronic effects	Liver and kidney injuries may occur. Can cause adverse reproductive effects.
Potential environmental effects	Components of this product are hazardous to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Ethylene Glycol	107-21-1	20 - 40
Potassium tetraborate	1332-77-0	20 - 40
Glycerine	56-81-5	1 - 5
Sodium Hydroxide	1310-73-2	1 - 5

4. First Aid Measures

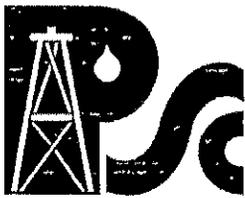
First aid procedures

Eye contact	Wash immediately and continuously with flowing water for at least 30 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Skin contact	Immediately flush skin with running water for at least 30 minutes. Remove contaminated clothing, including shoes, after flushing has begun. Get medical attention immediately. Thoroughly wash (or discard) clothing and shoes before reuse.
Inhalation	Move to fresh air. Call a physician or Poison Control Center immediately. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, trained personnel should give oxygen.
Ingestion	Get medical attention immediately. If swallowed, rinse mouth with water (only if the person is conscious). Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without medical advice. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to physician

Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases, coma, convulsions, and possible death). The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnea, tachycardia, mild hypotension, cyanosis, and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement, and congestive failure. The final stage occurs 24-72 post-exposure and is characterized by renal failure, ranging from a mild increase in blood urea nitrogen and creatinine followed by recovery, to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The most significant laboratory finding in ethylene glycol intoxication is severe metabolic acidosis. This product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol should be administered as soon as possible in cases of severe poisoning since the elimination half-life of ethylene glycol is 3 hours. If medical care will be delayed several hours, give the patient three to four 1-ounce oral "shots" of 86-proof or higher whiskey before or during transport to the hospital. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and as such, may be used as an antidote in the treatment of ethylene glycol poisoning. Hemodialysis effectively removes ethylene glycol and its metabolites from the body.





General advice Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Flammable properties None known.

Extinguishing media

Suitable extinguishing media Water fog. Alcohol foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions

In the event of fire and/or explosion do not breathe fumes. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Move containers from fire area if you can do it without risk. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out.

Specific methods Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep out of low areas. Ensure adequate ventilation. Ventilate closed spaces before entering them.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment Stop leak if you can do so without risk. Prevent entry into waterways, sewer, basements or confined areas. Should not be released into the environment.

Methods for cleaning up Extinguish all flames in the vicinity.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Clean contaminated surface thoroughly.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.

Other information Clean up in accordance with all applicable regulations.





7. Handling and Storage

Handling

Avoid heat, sparks, open flames and other ignition sources. When using, do not eat, drink or smoke. Do not use in areas without adequate ventilation. Wash thoroughly after handling. Wear personal protective equipment. Avoid release to the environment. Do not empty into drains. Do not breathe mist or vapor. Do not get this material in contact with eyes. Do not taste or swallow. Do not get on skin and clothing.

Storage

Keep away from heat and sources of ignition. Store in a closed container away from incompatible materials. Keep away from food and drink. Store in a well-ventilated place. Keep container tightly closed. Store in accordance with local/regional/national/international regulation.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Ethylene Glycol (107-21-1)	Ceiling	100 mg/m ³	Aerosol.
Glycerine (56-81-5)	TWA	10 mg/m ³	Mist.
Sodium Hydroxide (1310-73-2)	Ceiling	2 mg/m ³	

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Glycerine (56-81-5)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
Sodium Hydroxide (1310-73-2)	PEL	2 mg/m ³	

Engineering controls

Provide an emergency eye wash fountain and quick drench shower in the immediate work area. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye / face protection

Do not get this material in contact with eyes. Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Wear appropriate chemical resistant clothing. Where contact is likely, wear chemical-resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield. Gloves must be inspected prior to use.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

General hygiene considerations

Do not get this material in your eyes, on your skin, or on your clothing. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke.

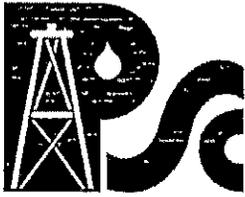
9. Physical & Chemical Properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid.
Color	Clear to Light Yellow.



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Odor	Not available.
Odor threshold	Not available.
pH	> 12.5
Vapor pressure	0.05 hPa estimated
Vapor density	Not available.
Boiling point	327.2 °F (164 °C)
Melting point/Freezing point	< -40 °F (< -40 °C)
Solubility (water)	Not available.
Specific gravity	1.24 - 1.27
Relative density	Not available.
Flash point	200.00 °F (93.33 °C)
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	748.00 °F (397.78 °C) estimated
VOC	31 % estimated
Percent volatile	73 % estimated
Other data	
Density	10.33 - 10.58 lb/gal
Flammability class	Combustible IIIB

10. Chemical Stability & Reactivity Information

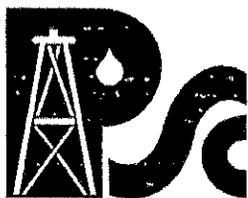
Chemical stability	Stable at normal conditions.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Amines. Isocyanates. Strong oxidizing agents. Strong acids. Caustics.
Hazardous decomposition products	Not available.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Product	Species	Test Results
BXL 10C (Mixture)		
Acute		
<i>Oral</i>		
LD50	Rat	2601.8101 mg/kg, estimated





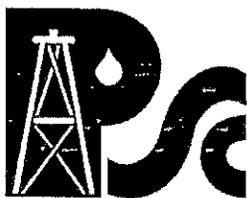
Components	Species	Test Results
Ethylene Glycol (107-21-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	9530 mg/kg
<i>Oral</i>		
LD50	Rat	5.89 g/kg
Glycerine (56-81-5)		
Acute		
<i>Dermal</i>		
LD50	Rat	21900.0001 mg/kg
<i>Oral</i>		
LD50	Rat	12600 mg/kg
Sodium Hydroxide (1310-73-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	1350 mg/kg
Sensitization	Not expected to be hazardous by OSHA criteria.	
Acute effects	Causes burns.	
Local effects	Harmful if swallowed. Components of the product may be absorbed into the body through the skin.	
Chronic effects	Prolonged exposure causes local irritation of skin and mucous membranes, especially to the eyes. Prolonged or repeated exposure may cause liver and kidney damage.	
Carcinogenicity		
ACGIH Carcinogens		
Ethylene Glycol (CAS 107-21-1)	A4 Not classifiable as a human carcinogen.	
Skin corrosion/irritation	Corrosive effects.	
Neurological effects	Excessive exposure may cause central nervous system effects such as dizziness, drowsiness or headaches.	
Teratogenicity	Ethylene glycol is considered a developmental hazard based on animal evidence.	

12. Ecological Information

Ecotoxicological data

Product	Species	Test Results	
BXL 10C (Mixture)			
Crustacea	EC50	Daphnia	225.9797 mg/L, 48 Hours, estimated
Fish	LC50	Fish	462.6449 mg/l, 96 hours, estimated





Components		Species	Test Results
Ethylene Glycol (107-21-1)			
Aquatic			
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	8050 mg/l, 96 hours
Glycerine (56-81-5)			
Fish	LC50	Fish	54000 mg/L, 96 Hours
Aquatic			
Fish	LC50	Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>)	51000 - 57000 mg/l, 96 hours
Sodium Hydroxide (1310-73-2)			
Fish	LC50	Fish	45.4 mg/L, 96 Hours
Aquatic			
Crustacea	EC50	Water flea (<i>Ceriodaphnia dubia</i>)	34.59 - 47.13 mg/l, 48 hours

Ecotoxicity Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Environmental effects Harmful to aquatic life.

Persistence and degradability Not available.

Bioaccumulation / Accumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow

Ethylene Glycol	-1.36
Glycerine	-1.76

Partition coefficient

Ethylene Glycol	-1.36
Glycerine	-1.76

13. Disposal Considerations

Waste codes D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel]

Disposal instructions Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

Waste from residues / unused products Dispose in accordance with local, state and federal regulations.

Contaminated packaging Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

14. Transport Information

DOT

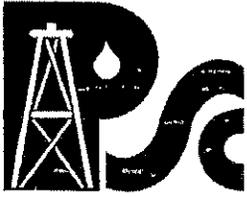
Basic shipping requirements:

UN number	UN1760
Proper shipping name	Corrosive liquids, n.o.s. (Sodium Hydroxide)
Hazard class	8



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Packing group III
Additional information:
Special provisions IB3, T7, TP1, TP28
Packaging exceptions 154
Packaging non bulk 203
Packaging bulk 241

DOT**BULK**

Basic shipping requirements:
UN number UN1760
Proper shipping name Corrosive liquids, n.o.s. (Sodium Hydroxide)
Hazard class 8
Packing group III
Additional information:
Special provisions IB3, T7, TP1, TP28
Packaging exceptions 154
Packaging non bulk 203
Packaging bulk 241

TDG

Proper shipping name CORROSIVE LIQUID, N.O.S. (Sodium Hydroxide)
Hazard class 8
UN number UN1760
Packing group III
Special provisions 16

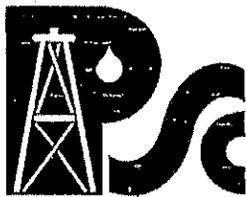
IATA

UN number UN1760
UN proper shipping name Corrosive liquid, n.o.s. (Sodium Hydroxide)
Transport hazard class(es) 8
Packing group III
ERG code 8L

IMDG

UN number UN1760
UN proper shipping name CORROSIVE LIQUID, N.O.S. (Sodium Hydroxide)
Transport hazard class(es) 8
Packing group III
EmS No. F-A, S-B

DOT; DOT BULK



IATA; IMDG; TDG



15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2))

Not regulated.

DEA Essential Chemical Code Number

Not regulated.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Ethylene Glycol (CAS 107-21-1) 1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Ethylene Glycol (CAS 107-21-1) Listed.

CERCLA (Superfund) reportable quantity

Ethylene Glycol: 5000.0000

Sodium Hydroxide: 1000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Inventory status

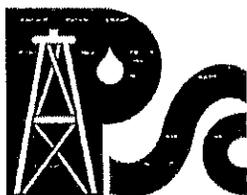
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes



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Country(s) or region	Inventory name	On inventory (yes/no)*
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - New Jersey RTK - Substances: Listed substance

Ethylene Glycol (CAS 107-21-1)	Listed.
Glycerine (CAS 56-81-5)	Listed.
Sodium Hydroxide (CAS 1310-73-2)	Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Ethylene Glycol (CAS 107-21-1)	Listed.
Glycerine (CAS 56-81-5)	Listed.
Sodium Hydroxide (CAS 1310-73-2)	Listed.

16. Other Information

HMIS® ratings Health: 3*
Flammability: 1
Physical hazard: 1
Personal protection: D

NFPA ratings Health: 3
Flammability: 1
Instability: 1

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This data sheet contains changes from the previous version in section(s): This document has undergone significant changes and should be reviewed in its entirety.

