



Material Safety Data Sheet

SAND STOP 4054

| | |
|---------------------|---|
| HEALTH | 2 |
| FLAMMABILITY | 2 |
| PHYSICAL HAZARD | 0 |
| PERSONAL PROTECTION | |

1. Product and Company Identification

| | |
|---|---|
| Material name | SAND STOP 4054 |
| Patent Number | Not available |
| Revision date | June-20-2011 |
| Version No. | 6 |
| CAS # | Mixture |
| Product use | Corrosion and Scale Inhibitor |
| Manufacturer information | Clearwater International LLC. 4420 Flores Rd Elmendorf, TX 78112 US Chemtrec 1-800-424-9300 Chemtrec INTL +1-703-527-3887 |
| Emergency | Chemtrec INTL +1-703-527-3887 |
| 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 | WARNING Combustible liquid and vapor. May be ignited by friction, heat, spark or flames. Containers may explode when heated. Harmful if swallowed, inhaled or absorbed through skin. Irritating to eyes, respiratory system and skin. Components of the product may be absorbed into the body by inhalation, ingestion and through the skin. Prolonged exposure may cause chronic effects. |
| OSHA regulatory status | This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication). |
| Potential health effects | |
| Routes of exposure | Skin contact. Inhalation. Eye contact. Ingestion. |
| Eyes | Irritating to eyes. Avoid contact with eyes. |
| Skin | Irritating to skin. Harmful if absorbed through the skin. Avoid contact with the skin. |
| Inhalation | Harmful if inhaled. Irritating to the nose, throat, and respiratory tract. Inhalation of mists/vapors of this product may cause dizziness, nausea, and respiratory tract congestion. Do not breathe dust/fume/gas/mist/vapors/spray. |
| Ingestion | Harmful if swallowed. Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause delayed lung damage. Components of the product may be absorbed into the body by ingestion. Do not ingest. |



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| Target organs | Blood. Kidney. Liver. Gastrointestinal tract. Central nervous system. Eyes. Lungs. Respiratory system. Skin. 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged and may cause blood damage. These effects have not been observed in humans. |
| Chronic effects | Unconsciousness. Shortness of breath. Liver injury may occur. Kidney injury may occur. May cause delayed lung damage. This product may be harmful if it is absorbed through the skin. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. |
| Signs and symptoms | Unconsciousness. Discomfort in the chest. Shortness of breath. Narcosis. Decrease in motor functions. Behavioral changes. Cough. |
| Potential environmental effects | Ecological injuries are not known or expected under normal use. |

3. Composition / Information on Ingredients

| Components | CAS # | Percent |
|-----------------|----------|---------|
| 2-Butoxyethanol | 111-76-2 | 30 - 60 |
| Ethylene Glycol | 107-21-1 | 15 - 40 |

4. First Aid Measures

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| First aid procedures | |
| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention immediately. |
| Skin contact | Immediately flush skin with plenty of water. Remove and isolate contaminated clothing and shoes. Get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse. |
| Inhalation | Move to fresh air. Oxygen or artificial respiration if needed. 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. Get medical attention immediately. |
| Ingestion | Rinse mouth. Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention immediately. |
| Notes to physician | In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed. |
| General advice | Take off contaminated clothing and shoes immediately. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Get medical attention if symptoms occur. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire Fighting Measures

| | |
|-------------------------------------|---|
| Flammable properties | Combustible by OSHA criteria. Containers may explode when heated. |
| Extinguishing media | |
| Suitable extinguishing media | Water. Alcohol foam. Dry chemical. Carbon dioxide (CO ₂). |



Unsuitable extinguishing media

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

Protection of firefighters

Specific hazards arising from the chemical

Fire may produce irritating, corrosive and/or toxic gases.

Protective equipment and precautions for firefighters

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.

6. Accidental Release Measures

Personal precautions

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

Environmental precautions

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

Methods for containment

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Clean up in accordance with all applicable regulations. Should not be released into the environment.

Large Spills: Dike far ahead of liquid spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. After removal flush contaminated area thoroughly with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean contaminated surface thoroughly.

Never return spills in original containers for re-use.

Other information

Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

Do not handle or store near an open flame, heat or other sources of ignition. All equipment used when handling the product must be grounded. Use only with adequate ventilation. Wash thoroughly after handling. Avoid prolonged exposure. Avoid release to the environment.

Storage

Keep away from heat and sources of ignition (spark or flame). The pressure in sealed containers can increase under the influence of heat. Keep containers tightly closed in a cool, well-ventilated place. Store in a closed container away from incompatible materials. Store in accordance with local/regional/national/international regulation.



8. Exposure Controls / Personal Protection

Exposure limits

ACGIH

| Components | CAS # | TWA | STEL | Ceiling |
|-----------------|----------|-----------------|-----------------|-----------------------|
| 2-Butoxyethanol | 111-76-2 | 20 ppm | Not established | Not established |
| Ethylene Glycol | 107-21-1 | Not established | Not established | 100 mg/m ³ |

OSHA

| Components | CAS # | TWA | STEL | Ceiling |
|-----------------|----------|--------|-----------------|-----------------|
| 2-Butoxyethanol | 111-76-2 | 50 ppm | Not established | Not established |

Engineering controls

Provide adequate ventilation.

Personal protective equipment

Eye / face protection

Wear safety glasses with side shields. Wear chemical goggles.

Skin protection

Impervious gloves. Wear suitable protective clothing. Closed-toe shoes recommended.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

General hygiene considerations

Do not get this material in your eyes, on your skin, or on your clothing. Wash hands and face before breaks and immediately after handling the product. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

| | |
|--|-------------------------------|
| Appearance | Clear. |
| Color | Dark brown. |
| Odor | Not available |
| Odor threshold | Not available |
| Physical state | Liquid. |
| Form | Liquid. |
| pH | 6 - 7 |
| Melting point | -9.4 °F (-23.43 °C) estimated |
| Freezing point | Not available |
| Boiling point | 188.6 °F (87.33 °C) estimated |
| Flash point | 179 °F (81.7 °C) |
| Evaporation rate | Not available |
| Flammability | Not available. |
| Flammability limits in air, upper, % by volume | Not available |
| Flammability limits in air, lower, % by volume | Not available |
| Vapor pressure | Not available |
| Vapor density | Not available |
| Specific gravity | 0.94 - 1.04 |



| | |
|--|-----------------------------|
| Relative density | 7.83 - 8.67 |
| Solubility (water) | Not available |
| Partition coefficient (n-octanol/water) | Not available |
| Auto-ignition temperature | 267.8 °F (131 °C) estimated |
| Decomposition temperature | Not available |
| VOC | 46 % estimated |

10. Chemical Stability & Reactivity Information

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| Chemical stability | Stable at normal conditions. |
| Conditions to avoid | Heat, flames and sparks. Avoid high temperatures. |
| Incompatible materials | Caustics. Strong oxidizing agents. |

11. Toxicological Information

| | |
|----------------------|---|
| Acute effects | Acute LD50: 4650 mg/kg estimated, Rat, Oral Acute LD50: 1500 mg/kg, Rat, Dermal Acute LC50: 20 mg/l/4h, Rat, Inhalation |
|----------------------|---|

Component analysis - LD50

Toxicology Data - Selected LD50s and LC50s

| | | |
|-----------------|----------|--|
| 2-Butoxyethanol | 111-76-2 | Inhalation LC50 Rat: 2.21 mg/L/4H; Inhalation LC50 Rat:450 ppm/4H; Oral LD50 Rat:470 mg/kg; Dermal LD50 Rat:2270 mg/kg; Dermal LD50 Rabbit:220 mg/kg |
| Ethylene Glycol | 107-21-1 | Oral LD50 Rat: 4000 mg/kg; Dermal LD50 Rabbit:9530 µL/kg |

| | | |
|---|---|---|
| Sensitization | Not expected to be hazardous by OSHA criteria. | |
| Local effects | Liver and kidney injuries may occur. Blood disorder may occur after ingestion. Irritating to eyes, respiratory system and skin. | |
| Chronic effects | Hazardous by OSHA criteria. This product may be harmful if it is absorbed through the skin. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged exposure may cause chronic effects. 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans. | |
| Subchronic effects | Kidney injury may occur. Liver injury may occur. Blood disorder may occur after ingestion. Blood disorder may occur after prolonged inhalation. Blood disorder may occur after prolonged skin contact. | |
| Carcinogenicity | Not expected to be hazardous by OSHA criteria. | |
| ACGIH - Threshold Limit Values - Carcinogens | | |
| 2-Butoxyethanol | 111-76-2 | A3 - Confirmed animal carcinogen with unknown relevance to humans |
| Ethylene Glycol | 107-21-1 | A4 - Not Classifiable as a Human Carcinogen |
| Neurological effects | Hazardous by OSHA criteria. | |
| Further information | Symptoms may be delayed. | |



12. Ecological Information

Ecotoxicity

LC50 4723 mg/L estimated, Fish, 96.00 Hours,

Ecotoxicity - Freshwater Algae Data

Ethylene Glycol 107-21-1 96 Hr EC50 Selenastrum capricornutum: 6500-1300 mg/L

Ecotoxicity - Freshwater Fish Species Data

2-Butoxyethanol 111-76-2 96 Hr LC50 Lepomis macrochirus: 1490 mg/L [static]
Ethylene Glycol 107-21-1 96 Hr LC50 Oncorhynchus mykiss: 41000 mg/L; 96 Hr LC50 Lepomis macrochirus: 27500 mg/L; 96 Hr LC50 Oncorhynchus mykiss: 40761 mg/L [static]; 96 Hr LC50 Pimephales promelas: 49000 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 16000 mg/L [static]

Ecotoxicity - Microtox Data

Ethylene Glycol 107-21-1 30 min EC50 Photobacterium phosphoreum: 620.0 mg/L; 30 min EC50 Photobacterium phosphoreum: 620 mg/L; 16 Hr EC50 Pseudomonas putida: 10000 mg/L

Ecotoxicity - Water Flea Data

2-Butoxyethanol 111-76-2 24 Hr EC50 water flea: 1720 mg/L; 24 Hr LC50 Daphnia magna: 1698-1940 mg/L
Ethylene Glycol 107-21-1 48 Hr EC50 water flea: 46300 mg/L

Environmental effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Ecotoxicity - Freshwater Algae Data

Ethylene Glycol 107-21-1 96 Hr EC50 Selenastrum capricornutum: 6500-1300 mg/L

Ecotoxicity - Freshwater Fish Species Data

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Ecotoxicity - Water Flea Data

2-Butoxyethanol 111-76-2 24 Hr EC50 water flea: 1720 mg/L; 24 Hr LC50 Daphnia magna: 1698-1940 mg/L
Ethylene Glycol 107-21-1 48 Hr EC50 water flea: 46300 mg/L

13. Disposal Considerations

Disposal instructions

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

14. Transport Information

Department of Transportation (DOT) Requirements

Not regulated as hazardous goods.



Department of Transportation (DOT) Requirements

Bulk

Basic shipping requirements:

| | |
|--------------------------------|---|
| Proper shipping name | Combustible liquid, n.o.s. (2-BUTOXYETHANOL, ETHYLENE GLYCOL) |
| Hazard class | Comb liq |
| Subsidiary hazard class | None |
| UN number | NA1993 |
| Packing group | III |
| Additional information: | |
| Special provisions | IB3, T1, T4, TP1 |
| Packaging exceptions | 150 |
| Packaging non bulk | 203 |
| Packaging bulk | 241 |

Canadian Transportation of Dangerous Goods (TDG) Requirements

Not regulated as hazardous goods.

Canadian Transportation of Dangerous Goods (TDG) Requirements

Not regulated as dangerous goods.

IMDG

Not regulated as hazardous goods.

IMDG

Not regulated as dangerous goods.

IATA

Not regulated as hazardous goods.

IATA

Not regulated as dangerous goods.

15. Regulatory Information

Labelling

Contains 2-Butoxyethanol, Ethylene Glycol

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

| | | |
|-----------------|----------|--|
| 2-Butoxyethanol | 111-76-2 | 1.0 % de minimis concentration (applies to R-(OCH ₂ CH ₂) _n -OR', where n = 1,2, or 3, R=alkyl C7 or less, or R = phenyl or alkyl substituted phenyl, R' = H or alkyl C7 or less, or OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate, Chemical Category N230) |
| Ethylene Glycol | 107-21-1 | 1.0 % de minimis concentration |

U.S. - FDA - Direct Food Additives

| | | |
|-----------------|----------|----------------|
| 2-Butoxyethanol | 111-76-2 | 21 CFR 173.315 |
|-----------------|----------|----------------|



Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

CERCLA (Superfund) reportable quantity

Ethylene Glycol: 5000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Inventory status

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | Yes |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of New and Existing Chemicals (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| 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)

International regulations

Canada - WHMIS - Ingredient Disclosure List

| | | |
|-----------------|----------|-----|
| 2-Butoxyethanol | 111-76-2 | 1 % |
| Ethylene Glycol | 107-21-1 | 1 % |



State regulations

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

U.S. - Massachusetts - Right To Know List

| | | |
|-----------------|----------|---------|
| 2-Butoxyethanol | 111-76-2 | Present |
| Ethylene Glycol | 107-21-1 | Present |

U.S. - Minnesota - Hazardous Substance List

| | | |
|-----------------|----------|---------------------------------|
| 2-Butoxyethanol | 111-76-2 | Skin |
| Ethylene Glycol | 107-21-1 | Present (particulate and vapor) |

U.S. - New Jersey - Right to Know Hazardous Substance List

| | | |
|-----------------|----------|---------|
| 2-Butoxyethanol | 111-76-2 | sn 0275 |
| Ethylene Glycol | 107-21-1 | sn 0878 |

U.S. - Pennsylvania - RTK (Right to Know) List

| | | |
|-----------------|----------|----------------------|
| 2-Butoxyethanol | 111-76-2 | Present |
| Ethylene Glycol | 107-21-1 | Environmental hazard |

U.S. - Rhode Island - Hazardous Substance List

| | | |
|-----------------|----------|------------------|
| 2-Butoxyethanol | 111-76-2 | Toxic (skin) |
| Ethylene Glycol | 107-21-1 | Toxic; Flammable |

U.S. - Texas - Effects Screening Levels - Long Term

| | | |
|-----------------|----------|--|
| 2-Butoxyethanol | 111-76-2 | 5 ppb ESL; 24 µg/m ³ ESL |
| Ethylene Glycol | 107-21-1 | 10 ppb ESL (46% Ethylene glycol); 26 µg/m ³ ESL (46% Ethylene glycol) |

U.S. - Texas - Effects Screening Levels - Short Term

| | | |
|-----------------|----------|--|
| 2-Butoxyethanol | 111-76-2 | 50 ppb ESL; 240 µg/m ³ ESL |
| Ethylene Glycol | 107-21-1 | 100 ppb ESL (46% ethylene glycol); 260 µg/m ³ ESL (46% ethylene glycol) |

16. Other Information

HMIS® ratings

Health: 2
Flammability: 2
Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 2
Instability: 0

Prepared by

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Disclaimer

THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US, AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.

Issue date

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MSDS sections updated

Product and Company Identification: Alternate Trade Names