



SAFETY DATA SHEET

CS 23

Section 1. Identification

GHS product identifier : CS 23

Other means of identification : Not available.

Product use : Corrosion/Scale Inhibitor

Product type : Liquid.

Manufacturer
UTE Energy
6940E 1400S Fort Duchesne, UT 84026

Validation date : 8/1/2018

**For Chemical Emergency
Spill, Leak Fire, Exposure or
Accident:** Call CHEMTREC Day or Night
Within USA and Canada 800-424-9300
Account Number: 1021931

Supplier's details : UTE Energy
6940E 1400S Fort Duchesne, UT 84026
jd.horrocks@ute-energy.com
435-823-0726

Section 2. Hazards identification

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (oral) - Category 4
EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
TOXIC TO REPRODUCTION (Unborn child) - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (kidneys, optic nerve) - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic

Date of issue/Date of revision

8/1/2018

Version : 1.06

Section 2. Hazards identification

effects) - Category 3
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (thyroid) -
 Category 1

GHS Ingredients of Unknown Toxicity US

GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: H226 - Flammable liquid and vapor.
 H302 - Harmful if swallowed.
 H315 - Causes skin irritation.
 H318 - Causes serious eye damage.
 H317 - May cause an allergic skin reaction.
 H360 - May damage the unborn child.
 H370 - Causes damage to organs. (kidneys, optic nerve)
 H336 - May cause drowsiness or dizziness.
 H372 - Causes damage to organs through prolonged or repeated exposure. (thyroid)

Precautionary statements

General

: P103 - Read label before use.
 P102 - Keep out of reach of children.
 P101 - If medical advice is needed, have product container or label at hand.

Prevention

: P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P240 - Ground/bond container and receiving equipment.
 P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
 P242 - Use only non-sparking tools.
 P243 - Take precautionary measures against static discharge.
 P233 - Keep container tightly closed.
 P271 - Use only outdoors or in a well-ventilated area.
 P260 - Do not breathe vapor.
 P270 - P270 - Do not eat, drink or smoke when using this product.
 P264 - Wash hands thoroughly after handling.
 P272 - Contaminated work clothing should not be allowed out of the workplace.

Response

: P314 - Obtain medical attention if you feel unwell.
 P307 + P311 - IF exposed: Call a POISON CENTER or physician.
 P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 P302 + P352 + P363 - IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse.
 P333 + P313 - If skin irritation or rash occurs: Obtain medical attention.

Section 2. Hazards identification

P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
 P370 + P378 In Case of Fire: Use dry chemical, CO₂, water spray (fog) or foam to extinguish.

- Storage** : P405 - Store locked up.
 P403 - Store in a well-ventilated place.
 P235 - Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.
- Routes of entry** : Dermal contact. Eye contact. Inhalation. Ingestion.
 INGESTION: Although not a normal route of entry, ingestion is expected to be harmful. DO NOT TAKE INTERNALLY. FOR INDUSTRIAL USE ONLY.
- Target organs** : Contains material which may cause damage to the following organs: kidneys, the nervous system, the reproductive system, heart, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea, pituitary gland, thyroid.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.
- CAS number/other identifiers**
- CAS number** : Not applicable.

Ingredient name	%	CAS number
<input checked="" type="checkbox"/> Ethylene Glycol	10 - 30	107-21-1
Methanol	10 - 30	67-56-1
Proprietary	5 - 10	Proprietary
Proprietary	1 - 5	Proprietary
Proprietary	1 - 5	Proprietary
Proprietary	1 - 5	Proprietary

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. If irritation persists, obtain medical attention. If necessary, call a poison center or physician.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If irritation persists, obtain medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 15 minutes. If irritation persists, obtain medical attention. If necessary, call a poison center or physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. If irritation persists, obtain medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths

Section 4. First aid measures

- Skin contact** : skeletal malformations
 Adverse symptoms may include the following:
 irritation
 redness
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations
 blindness

<u>Specific target organ toxicity (single exposure)</u>			
Name	Category	Route of exposure	Target organs
Ethylene Glycol	Category 2	Oral	kidneys
Methanol	Category 1	Oral	optic nerve
	Category 3	Not applicable.	Narcotic effects

<u>Specific target organ toxicity (repeated exposure)</u>			
Name	Category	Route of exposure	Target organs
<input checked="" type="checkbox"/> Proprietary	Category 1	Not determined	thyroid

<u>Aspiration hazard</u>	
Name	Result
Not available.	

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

Section 5. Fire-fighting measures

- Specific hazards arising from the chemical** : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
- Additional Vapor Statement** : Not available.
Not available.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
phosphorus oxides
halogenated compounds
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Ethylene Glycol	ACGIH TLV (United States, 4/2014). C: 100 mg/m ³ Form: Aerosol OSHA PEL 1989 (United States, 3/1989). CEIL: 50 ppm CEIL: 125 mg/m ³
Methanol	ACGIH TLV (United States, 4/2014). Absorbed through skin. TWA: 200 ppm 8 hours. TWA: 262 mg/m ³ 8 hours.

Section 8. Exposure controls/personal protection

Proprietary	<p>STEL: 250 ppm 15 minutes. STEL: 328 mg/m³ 15 minutes. OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. TWA: 200 ppm 8 hours. TWA: 260 mg/m³ 8 hours. STEL: 250 ppm 15 minutes. STEL: 325 mg/m³ 15 minutes. NIOSH REL (United States, 10/2013). Absorbed through skin. TWA: 200 ppm 10 hours. TWA: 260 mg/m³ 10 hours. STEL: 250 ppm 15 minutes. STEL: 325 mg/m³ 15 minutes. OSHA PEL (United States, 2/2013). TWA: 200 ppm 8 hours. TWA: 260 mg/m³ 8 hours.</p> <p>ACGIH TLV (United States, 4/2014). TWA: 10 mg/m³ 8 hours. Form: Fume STEL: 20 mg/m³ 15 minutes. Form: Fume NIOSH REL (United States, 10/2013). TWA: 10 mg/m³ 10 hours. Form: Fume STEL: 20 mg/m³ 15 minutes. Form: Fume OSHA PEL 1989 (United States, 3/1989). TWA: 10 mg/m³ 8 hours. STEL: 20 mg/m³ 15 minutes.</p>
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- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Individual protection measures**
 - Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing.
 - Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles
 - Skin protection**

Section 8. Exposure controls/personal protection

Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
Personal protective equipment (Pictograms)	: 

Section 9. Physical and chemical properties

Appearance

Physical state	: Liquid. [Clear.]
Color	: Pale straw colored
Odor	: Pungent.
Odor threshold	: Not available.
pH	: 5 to 6
Melting point	: $\leq -40^{\circ}\text{C}$ ($< -40^{\circ}\text{F}$)
Boiling point	: Not available.
Flash point	: Closed cup: 24.444°C (76°F) [Pensky-Martens.]
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: >1 [Air = 1]
Relative density	: 0.98 to 1.04
Density	: 8.17 to 8.69 (lbs/gal)
Solubility	: Easily soluble in the following materials: cold water.
Partition coefficient: n-octanol/ water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
- Incompatible materials** : Reactive or incompatible with the following materials:
oxidizing materials
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethylene Glycol	LD50 Oral	Rat	4700 mg/kg	-
Methanol	LC50 Inhalation Gas.	Rat	145000 ppm	1 hours
	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	10 mg/l	4 hours
	LD50 Dermal	Rabbit	1000 mg/kg	-
	LD50 Oral	Rat	300 mg/kg	-
Proprietary	LD50 Oral	Rat	1832 mg/kg	-
Proprietary	LD50 Oral	Rat	250 mg/kg	-
Proprietary	LD50 Oral	Rat	1650 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ethylene Glycol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	1 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	6 hours 1440 milligrams	-
	Skin - Mild irritant	Rabbit	-	555 milligrams	-
Methanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	40 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Proprietary	Skin - Irritant	Rabbit	-	24 hours	3 days
	Eyes - Cornea opacity	Rabbit	>1	-	-
Proprietary	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Proprietary	Skin - Irritant	Rabbit	-	24 hours	3 days

Section 11. Toxicological information

Proprietary	Eyes - Cornea opacity	Rabbit	4	-	-
	Eyes - Mild irritant	Rabbit	-	24 hours	500 milligrams
	Eyes - Severe irritant	Rabbit	-	100	milligrams

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Proprietary	skin	Rabbit	Sensitizing

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Not available.			

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Not available.				

Product/ingredient name

Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Proprietary	-	-	Positive	Rat	Oral	-

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Not available.				

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Ethylene Glycol	Category 2	Oral	kidneys
Methanol	Category 1	Oral	optic nerve
	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Proprietary	Category 1	Not determined	thyroid

Aspiration hazard

Name	Result
Not available.	

Information on the likely ToxKinetics - routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Section 11. Toxicological information

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations
blindness

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Section 11. Toxicological information

Teratogenicity	: May damage the unborn child.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	804.1 mg/kg
Dermal	4919.8 mg/kg
Inhalation (vapors)	49.2 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Ethylene Glycol	Acute LC50 100000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 10000000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
Methanol	Acute LC50 8050000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 16.912 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 2500000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 3289 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
Proprietary	Acute LC50 100 mg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 9.96 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 6600000 µg/l Fresh water	Algae - Chlorella pyrenoidosa	96 hours
	Acute EC50 23 ppm Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
Proprietary	Acute LC50 26400 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 502 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 0.07 mg/l Marine water	Algae - Hormosira banksii - Gamete	72 hours
	Acute LC50 20 µg/l Fresh water	Crustaceans - Macrobrachium rosenbergii - Post-larvae	48 hours
	Acute LC50 390 µg/l Fresh water	Daphnia - Daphnia magna - Young	48 hours
	Acute LC50 80 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.6 mg/l Marine water	Algae - Entomoneis punctulata - Exponential growth phase	72 hours
	Chronic NOEC 330 µg/l Fresh water	Crustaceans - Crangonyx sp. - Juvenile (Fledgling, Hatchling, Weanling)	21 days
	Chronic NOEC 19.66 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.006 mg/l Fresh water	Fish - Ictalurus punctatus - Fry	30 days

Conclusion/Summary : Not available.

Section 12. Ecological information

Persistence and degradability

Not available.

Product/ingredient name

Not available.

Product/ingredient name

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
✓ Ethylene Glycol	-1.36	-	low
Methanol	-0.77	<10	low
Proprietary	-0.67	1.82	low
Proprietary	-3.2	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
✓ Methanol (I); Methyl alcohol (I)	67-56-1	Listed	U154
Proprietary	96-45-7	Listed	U116

Section 14. Transport information

Regulatory information	UN/NA Number	Proper shipping name	Hazard Class(es)	PG*
DOT Classification			PG* : Packing group	
	UN1993	FLAMMABLE LIQUID, N.O.S. (methanol) RQ (Thiourea, Ethylene Glycol)	3	III

Additional information

Emergency Response Guide (ERG): 128

Reportable quantity

366.3 lbs / 166.3 kg [43.497 gal / 164.65 L]

Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

Label



TDG Classification

UN1993	FLAMMABLE LIQUID, N.O.S. (methanol)	3	III
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Additional information

Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).

Label



IMDG Class

UN1993	FLAMMABLE LIQUID, N.O.S. (methanol)	3	III
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Marine pollutant notes: : Not available.

Additional information

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Section 14. Transport information

Label



IATA-DGR Class

UN1993	FLAMMABLE LIQUID, N.O.S. (methanol)	3	III
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Additional information

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Label



Section 15. Regulatory information

U.S. Federal regulations : TSCA 4(a) proposed test rules: Quaternary ammonium compounds, (oxydi-2,1-ethanediyl) bis[coco alkyl dimethyl, dichlorides]
 TSCA 8(a) CDR Exempt/Partial exemption: Not determined
 All components are listed or exempted.
 Clean Water Act (CWA) 311: Proprietary

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
 Immediate (acute) health hazard
 Delayed (chronic) health hazard

Composition/information on ingredients

Section 15. Regulatory information

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Ethylene Glycol	10 - 30	No.	No.	No.	Yes.	No.
Methanol	10 - 30	Yes.	No.	No.	Yes.	No.
Proprietary	5 - 10	No.	No.	No.	Yes.	No.
Proprietary	1 - 5	No.	No.	No.	Yes.	Yes.
Proprietary	1 - 5	No.	No.	Yes.	Yes.	No.
Proprietary	1 - 5	No.	No.	No.	Yes.	No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Ethylene Glycol	107-21-1	10 - 30
	methanol	67-56-1	10 - 30
	Proprietary	Proprietary	1 - 5
	Proprietary	Proprietary	1 - 5
Supplier notification	Ethylene Glycol	107-21-1	10 - 30
	methanol	67-56-1	10 - 30
	Proprietary	Proprietary	1 - 5
	Proprietary	Proprietary	1 - 5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

- Massachusetts** : The following components are listed: METHANOL; ETHYLENE GLYCOL; Proprietary; Proprietary
- New York** : The following components are listed: Methanol; Ethylene glycol; Proprietary; Proprietary
- New Jersey** : The following components are listed: METHYL ALCOHOL; METHANOL; ETHYLENE GLYCOL; 1,2-ETHANEDIOL; Proprietary; Proprietary
- Pennsylvania** : The following components are listed: METHANOL; 1,2-ETHANEDIOL; Proprietary; Proprietary

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Methanol	No.	Yes.	No.	23000 µg/day (ingestion) 47000 µg/day (inhalation)
Proprietary	Yes.	Yes.	Yes.	No.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Section 15. Regulatory information

Not listed.

[Rotterdam Convention on Prior Informed Consent \(PIC\)](#)

Not listed.

[UNECE Aarhus Protocol on POPs and Heavy Metals](#)

Not listed.

[Canadian lists](#)

- Canadian NPRI (Pollution Release)** : The following components are listed: Methanol; Ethylene glycol; Ammonia (total); Ethylene thiourea
- CEPA Toxic substances** : None of the components are listed.
- Canada inventory-DSL / NDSL** : All components are listed or exempted.

[International lists](#)

[National inventory](#)

- Australia** : Not determined.
- Canada** : All components are listed or exempted.
- China** : Not determined.
- Europe** : All components are listed or exempted.
- Japan** : **Japan inventory (ENCS)**: Not determined.
Japan inventory (ISHL): Not determined.
- Malaysia** : Not determined.
- New Zealand** : All components are listed or exempted.
- Philippines** : Not determined.
- Republic of Korea** : Not determined.
- Taiwan** : Not determined.

Section 16. Other information

[National Fire Protection Association \(U.S.A.\)](#)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

[Normal Package Size\(s\):](#) Ball: 2" Ball 50/Cooler; 4" Ball 12/Cooler
 Dry Product: 50 Lbs/Box
 Liquid: 5 Gallon/55 Gallon/Bulk
 Pellets: 30 Lbs/Cooler; 24 Lbs/Pail
 Stix: 1 1/4": 50 Each/Cooler

[History](#)

Date of issue/Date of revision

8/1/2018

Version : 1.06

Section 16. Other information

Date of issue/Date of revision : 8/1/2018
Version : 1.06
Date of previous issue : 3/20/2018
Previous Validation Date : 3/20/2018
Prepared by : UTE Energy
SDS Requests: : jd.horrocks@ute-energy.com

Key to abbreviations : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 UN = United Nations
References : Not available.

 Indicates information that has changed from previously issued version.

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*** END OF SDS ***