

## Section 1. Identification

**Product name** : CRW9152A CORROSION INHIBITOR  
**Product code** : CRW9152A

### Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : Corrosion Inhibitor

**Print date** : 1/16/2020

**Validation date** : 1/16/2020

**Version** : 3.01

**Supplier's details** : Baker Petrolite LLC  
 12645 W. Airport Blvd.  
 Sugar Land, TX 77478  
 For Product Information/SDSs Call: 800-231-3606  
 (8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

**Emergency telephone number (with hours of operation)** : CHEMTREC: 800-424-9300 (U.S. 24 hour)  
 Baker Petrolite: 800-231-3606  
 (001)281-276-5400  
 CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 2  
 ACUTE TOXICITY (oral) - Category 4  
 ACUTE TOXICITY (dermal) - Category 4  
 ACUTE TOXICITY (inhalation) - Category 4  
 SKIN IRRITATION - Category 2  
 SERIOUS EYE DAMAGE - Category 1  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (optic nerve) - Category 1  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 2  
 AQUATIC HAZARD (ACUTE) - Category 2

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

## Section 2. Hazards identification

<b>Hazard statements</b>	: Highly flammable liquid and vapor. Harmful if swallowed, in contact with skin or if inhaled. Causes serious eye damage. Causes skin irritation. Causes damage to organs. (optic nerve) May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. (liver) Toxic to aquatic life.
<b>Precautionary statements</b>	
<b>Prevention</b>	: Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves.. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
<b>Response</b>	: Get medical attention if you feel unwell. IF exposed: Call a POISON CENTER or physician. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
<b>Storage</b>	: Store locked up. Store in a well-ventilated place. Keep cool.
<b>Disposal</b>	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	: Avoid contact with skin and clothing. Wash thoroughly after handling.
<b>Hazards not otherwise classified</b>	: Prolonged or repeated contact may dry skin and cause irritation.

### Additional information

The NIOSH IDLH (Immediately Dangerous to Life and Health) value for hydrogen sulfide is 100 ppm. Hydrogen sulfide odor is not a good warning property. The human sense of smell may become "fatigued" after a few minutes of exposure to hydrogen sulfide and no longer be able to detect the odor. See Section 11 for more detailed information on health effects and symptoms.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

Ingredient name	%	CAS number
Isopropanol	30 - 40	67-63-0
Methanol	20 - 30	67-56-1
Butanol	5 - 10	71-36-3
Phosphates	5 - 10	Trade secret.
Quaternary ammonium chloride	5 - 10	Trade secret.
Polyoxyalkylene phosphate	5 - 10	Trade secret.
Diethanolamine	1 - 5	111-42-2
Morpholine	1 - 5	110-91-8
Fatty amine	0 - 0.1	Trade secret.
Hydrogen sulfide	<0.1	7783-06-4

## Section 3. Composition/information on ingredients

### Additional information

The 0.1% (1000 ppm) maximum hydrogen sulfide (H<sub>2</sub>S) content shown above is for the liquid phase. The headspace of containers of this product may contain levels of H<sub>2</sub>S higher than this.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. 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** : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. 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. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Harmful in contact with skin. Causes skin irritation. Defatting to the skin.
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

#### Over-exposure signs/symptoms

- Eye contact** : pain, watering, redness
- Inhalation** : nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness
- Skin contact** : pain or irritation, redness, dryness, cracking, blistering may occur
- Ingestion** : stomach pains

### 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.

## Section 4. First aid measures

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray (fog).

**Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. 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. This material is toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide, nitrogen oxides, sulfur oxides, phosphorus oxides

**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. Do not breathe 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). Water polluting material. May be harmful to the environment if released in large quantities.

### 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.

If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802.

### Additional information

Released material may contain residual sulfides. Spray residual material left after initial clean up with weak (approximately 5 percent) hydrogen peroxide to oxidize sulfides. Recover as much solution as possible. A respirator suitable for H<sub>2</sub>S may be necessary in the event of a spill.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. 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. See Section 10 for incompatible materials before handling or use.

### Additional information

Avoid inhalation of vapors near openings on storage containers and manufacturing equipment. This product should be transferred under negative pressure.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

## Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Isopropanol	<p><b>ACGIH TLV (United States, 4/2014).</b>            STEL: 400 ppm, 0 times per shift, 15 minutes.            TWA: 200 ppm, 0 times per shift, 8 hours.</p> <p><b>NIOSH REL (United States, 10/2013).</b>            STEL: 1225 mg/m<sup>3</sup>, 0 times per shift, 15 minutes.            STEL: 500 ppm, 0 times per shift, 15 minutes.            TWA: 980 mg/m<sup>3</sup>, 0 times per shift, 10 hours.            TWA: 400 ppm, 0 times per shift, 10 hours.</p> <p><b>OSHA PEL (United States, 2/2013).</b>            TWA: 980 mg/m<sup>3</sup>, 0 times per shift, 8 hours.            TWA: 400 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>            STEL: 1225 mg/m<sup>3</sup>, 0 times per shift, 15 minutes.            STEL: 500 ppm, 0 times per shift, 15 minutes.            TWA: 980 mg/m<sup>3</sup>, 0 times per shift, 8 hours.            TWA: 400 ppm, 0 times per shift, 8 hours.</p>
Methanol	<p><b>ACGIH TLV (United States, 3/2018). Absorbed through skin.</b>            STEL: 328 mg/m<sup>3</sup>, 0 times per shift, 15 minutes.            STEL: 250 ppm, 0 times per shift, 15 minutes.            TWA: 262 mg/m<sup>3</sup>, 0 times per shift, 8 hours.            TWA: 200 ppm, 0 times per shift, 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016). Absorbed through skin.</b>            STEL: 325 mg/m<sup>3</sup>, 0 times per shift, 15 minutes.            STEL: 250 ppm, 0 times per shift, 15 minutes.            TWA: 260 mg/m<sup>3</sup>, 0 times per shift, 10 hours.            TWA: 200 ppm, 0 times per shift, 10 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b>            TWA: 260 mg/m<sup>3</sup>, 0 times per shift, 8 hours.            TWA: 200 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.</b>            STEL: 325 mg/m<sup>3</sup>, 0 times per shift, 15 minutes.            STEL: 250 ppm, 0 times per shift, 15 minutes.            TWA: 260 mg/m<sup>3</sup>, 0 times per shift, 8 hours.            TWA: 200 ppm, 0 times per shift, 8 hours.</p>
Butanol	<p><b>ACGIH TLV (United States, 3/2018).</b>            TWA: 20 ppm, 0 times per shift, 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016). Absorbed through skin.</b>            CEIL: 150 mg/m<sup>3</sup>, 0 times per shift, 0 hours.            CEIL: 50 ppm, 0 times per shift, 0 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b>            TWA: 300 mg/m<sup>3</sup>, 0 times per shift, 8 hours.            TWA: 100 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.</b>            CEIL: 150 mg/m<sup>3</sup>, 0 times per shift, 0 hours.            CEIL: 50 ppm, 0 times per shift, 0 hours.</p>
Phosphates Quaternary ammonium chloride Polyoxyalkylene phosphate Diethanolamine	<p>None.            None.            None.</p> <p><b>ACGIH TLV (United States, 2/2010). Absorbed through skin.</b>            TWA: 1 mg/m<sup>3</sup>, 0 times per shift, 8 hours. Form:</p>

**Section 8. Exposure controls/personal protection**

<p>Morpholine</p>	<p>Inhalable fraction and vapor  <b>NIOSH REL (United States, 6/2009).</b>                      TWA: 15 mg/m<sup>3</sup>, 0 times per shift, 10 hours.                      TWA: 3 ppm, 0 times per shift, 10 hours.  <b>OSHA PEL 1989 (United States, 3/1989).</b>                      TWA: 15 mg/m<sup>3</sup>, 0 times per shift, 8 hours.                      TWA: 3 ppm, 0 times per shift, 8 hours.  <b>ACGIH TLV (United States, 3/2018). Absorbed through skin.</b>                      TWA: 71 mg/m<sup>3</sup>, 0 times per shift, 8 hours.                      TWA: 20 ppm, 0 times per shift, 8 hours.  <b>NIOSH REL (United States, 10/2016). Absorbed through skin.</b>                      STEL: 105 mg/m<sup>3</sup>, 0 times per shift, 15 minutes.                      STEL: 30 ppm, 0 times per shift, 15 minutes.                      TWA: 70 mg/m<sup>3</sup>, 0 times per shift, 10 hours.                      TWA: 20 ppm, 0 times per shift, 10 hours.  <b>OSHA PEL (United States, 5/2018). Absorbed through skin.</b>                      TWA: 70 mg/m<sup>3</sup>, 0 times per shift, 8 hours.                      TWA: 20 ppm, 0 times per shift, 8 hours.  <b>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.</b>                      STEL: 105 mg/m<sup>3</sup>, 0 times per shift, 15 minutes.                      STEL: 30 ppm, 0 times per shift, 15 minutes.                      TWA: 70 mg/m<sup>3</sup>, 0 times per shift, 8 hours.                      TWA: 20 ppm, 0 times per shift, 8 hours.</p>
<p>Fatty amine                      Hydrogen sulfide</p>	<p>None.  <b>ACGIH TLV (United States, 3/2018).</b>                      STEL: 5 ppm, 0 times per shift, 15 minutes.                      TWA: 1 ppm, 0 times per shift, 8 hours.  <b>NIOSH REL (United States, 10/2016).</b>                      CEIL: 15 mg/m<sup>3</sup>, 0 times per shift, 10 minutes.                      CEIL: 10 ppm, 0 times per shift, 10 minutes.  <b>OSHA PEL 1989 (United States, 3/1989).</b>                      STEL: 21 mg/m<sup>3</sup>, 0 times per shift, 15 minutes.                      STEL: 15 ppm, 0 times per shift, 15 minutes.                      TWA: 14 mg/m<sup>3</sup>, 0 times per shift, 8 hours.                      TWA: 10 ppm, 0 times per shift, 8 hours.  <b>OSHA PEL Z2 (United States, 2/2013).</b>                      AMP: 50 ppm, 0 times per shift, 10 minutes.                      CEIL: 20 ppm, 0 times per shift, 0 hours.</p>

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

**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.

Individual protection measures

## Section 8. Exposure controls/personal protection

- 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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.
- Hand protection** : Chemical-resistant gloves: Nitrile or Neoprene gloves.
- Skin protection** : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.
- Respiratory protection** : Hydrogen sulfide accumulates in the headspace of containers of this product. During sealed transfer of this product under well-ventilated conditions, where inhalation exposure potential is minimal, respiratory protection is not expected to be necessary. However, if after a thorough hazard assessment respiratory protection is deemed necessary an appropriate supplied air respirator must be utilized.

### Additional information

Prior to handling containers of this product, make sure to be wearing a hydrogen sulfide (H<sub>2</sub>S) monitor that is in sound working condition.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Green to Amber. [Light]
- Odor** : Mercaptan Pungent. [Strong]
- Odor threshold** : Not available.
- pH** : 7.9 [Conc. (% w/w): 5%]  
: 5% in IPA/water
- Melting/freezing point** : Not available.
- Boiling point** : Not available.
- Initial Boiling Point** : Not available.
- Flash point** : Closed cup: 12.8°C (55°F) [SFCC]
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : 47.9 kPa (359.4 mm Hg) @ 54.4°C
- Vapor density** : >1 [Air = 1]
- Relative density** : 0.864 (15.6°C)
- Density** : 7.2 (lbs/gal)
- Solubility in water** : Dispersible
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.



## Section 9. Physical and chemical properties

**Viscosity** : Dynamic (15.6°C): 3.7 cP

**VOC** : Not available.

**Pour Point** : <-42.8°C (<-45°F)

## 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, reducing materials and acids.

**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
Isopropanol	LC50 Inhalation Vapor	Rat	>10000 ppm	6 hours
	LD50 Dermal	Rabbit	6.29 g/kg	-
	LD50 Oral	Rat	4700 mg/kg	-
Methanol	LC50 Inhalation Gas.	Rat	145000 ppm	1 hours
	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Human	500 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
Phosphates	LD50 Dermal	Rabbit	>8000 mg/kg	-
	LD50 Oral	Rat	9200 mg/kg	-
Quaternary ammonium chloride	LD50 Dermal	Rat	1664 mg/kg	-
	LD50 Oral	Rat	295 mg/kg	-
Diethanolamine	LD50 Dermal	Rabbit	3000 mg/kg	-
	LD50 Oral	Rat	680 mg/kg	-
Morpholine	LD50 Dermal	Rabbit	0.5 g/kg	-
	LD50 Oral	Rat	1.05 g/kg	-
	LD50 Oral	Rat	1450 mg/kg	-
Fatty amine	LD50 Dermal	Rat	5600 mg/kg	-
	LD50 Oral	Rat	1330 mg/kg	-
	LD50 Oral	Rat	1330 mg/kg	-
Hydrogen sulfide	LC50 Inhalation Gas.	Rat	444 ppm	4 hours
	LC50 Inhalation Vapor	Rat	700 mg/m <sup>3</sup>	4 hours
	LCLo Inhalation Gas.	Man	634 ppm	1 hours

## Section 11. Toxicological information

### Irritation/Corrosion

No applicable toxicity data

### Sensitization

No applicable toxicity data

### Mutagenicity

No applicable toxicity data

### Carcinogenicity

Product/ingredient name	OSHA	IARC	NTP
Isopropanol	-	3	-
Diethanolamine	-	3	-
Morpholine	-	3	-

### Reproductive toxicity

No applicable toxicity data

### Teratogenicity

No applicable toxicity data

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Isopropanol	Category 3	Not applicable.	Narcotic effects
Methanol	Category 1	Oral	optic nerve
Butanol	Category 3	Not applicable.	Respiratory tract irritation and
Hydrogen sulfide	Category 3	Not applicable.	Narcotic effects Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Diethanolamine	Category 2	Oral	liver

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Dermal, Inhalation.

### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Harmful in contact with skin. Causes skin irritation. Defatting to the skin.
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

### Potential chronic health effects

- General** : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : No known significant effects or critical hazards.

## Section 11. Toxicological information

<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Teratogenicity</b>	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
<b>Fertility effects</b>	: No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	364.8 mg/kg
Dermal	1077.5 mg/kg
Inhalation (gases)	30515463.9 ppm
Inhalation (vapors)	11.89 mg/l

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Isopropanol	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 1400000 µg/l	Fish - Gambusia affinis	96 hours
Methanol	Acute EC50 16.912 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 10000000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 2500000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 100 mg/l Fresh water	Fish - Pimephales promelas	96 hours
Butanol	Chronic NOEC 9.96 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 1983000 to 2072000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1910000 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
Phosphates	Acute EC50 0.48 mg/l	Algae - Skeletonema	72 hours
	Acute LC50 3.2 mg/l	Fish	96 hours
Quaternary ammonium chloride	Acute LC50 0.145 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
Diethanolamine	Acute LC50 2150 µg/l Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 100000 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC <24000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Chronic NOEC 540 ppm Marine water	Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
Morpholine	Acute EC50 28 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
Hydrogen sulfide	Acute LC50 1000 µg/l	Fish - Danio rerio	96 hours
	Acute EC50 62 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus	2 days
	Acute LC50 2 µg/l Fresh water	Fish - Coregonus clupeaformis - Yolk-sac fry	96 hours

### Persistence and degradability

## Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
Phosphates	-	28 % - 28 days	-	-









Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Phosphates	-	-	Inherent

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

## Section 13. Disposal considerations

**Disposal methods** : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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.

## Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
<b>UN number</b>	UN1992	UN1992	UN1992	UN1992
<b>UN proper shipping name</b>	FLAMMABLE LIQUID, TOXIC, N.O.S. (Contains: Isopropanol, Methanol)	FLAMMABLE LIQUID, TOXIC, N.O.S. (Contains: Isopropanol, Methanol)	FLAMMABLE LIQUID, TOXIC, N.O.S. (Contains: Isopropanol, Methanol)	FLAMMABLE LIQUID, TOXIC, N.O.S. (Contains: Isopropanol, Methanol)
<b>Transport hazard class(es)</b>	3 (6.1)  	3 (6.1)  	3 (6.1)  	3 (6.1)  
<b>Packing group</b>	II	II	II	II
<b>Environmental hazards</b>	No.	No.	No.	No.

### Additional information

- DOT Classification** : **Reportable quantity** 4761.9 lbs / 2161.9 kg [661.01 gal / 2502.2 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3), 2.26-2.36 (Class 6).
- IMDG** : **Emergency schedules** F-E S-E

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 14. Transport information

**Transport in bulk according to Annex II of MARPOL and the IBC Code** : Not available.

**DOT Reportable Quantity** Methanol, 2991 gal of this product.  
Butanol, 6944 gal of this product.  
Diethanolamine, 661 gal of this product.

**Marine pollutant** Not available.

**North-America NAERG** : 131

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 5(a)2 final significant new use rules:** Polycarboxylate salt  
**TSCA 12(b) one-time export:** No products were found.  
**TSCA 12(b) annual export notification:** No products were found.  
**United States inventory (TSCA 8b):** All components are listed or exempted.  
**Clean Water Act (CWA) 307:** No products were found.  
**Clean Water Act (CWA) 311:** hydrogen sulphide

### United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Diethanolamine	Diethanolamine	1 - 5
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Methanol	Methanol	20 - 30
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Hydrogen sulfide	Hydrogen sulfide	0 - 0.1
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	1,4-Dioxane	1,4-Dioxane	0 - 0.1

### SARA 302/304

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Hydrogen sulfide	<0.1	Yes.	500	-	100	-

### SARA 311/312

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

### SARA 313

	Product name	CAS number	%
<b>Supplier notification</b>	Isopropanol	67-63-0	30 - 40
	Methanol	67-56-1	20 - 30
	Butanol	71-36-3	5 - 10
	Diethanolamine	111-42-2	1 - 5

### California Prop. 65

## Section 15. Regulatory information

**⚠ WARNING:** This product can expose you to chemicals including 1,4-Dioxane, which is known to the State of California to cause cancer, and methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### Canada

**Canada (CEPA DSL):** : All components are listed or exempted.

## Section 16. Other information

### National Fire Protection Association (U.S.A.)



### History

**Date of printing** : 1/16/2020

✔ Indicates information that has changed from previously issued version.

### Notice to reader

**NOTE:** The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

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