

## 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** : 1/12/2023

**Validation date** : 1/12/2023

**Version** : 3.02

**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) - Category 1  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
 AQUATIC HAZARD (ACUTE) - Category 2  
 AQUATIC HAZARD (LONG-TERM) - Category 2  
 Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 6.8%  
 Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 6.8%  
 Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 15.2%

### GHS label elements

**Hazard pictograms**



## Section 2. Hazards identification

<b>Signal word</b>	: Danger
<b>Hazard statements</b>	: <b>H</b> ighly flammable liquid and vapor. Harmful if swallowed, in contact with skin or if inhaled. Causes skin irritation. Causes serious eye damage. May cause drowsiness or dizziness. Causes damage to organs. (optic nerve) May cause damage to organs through prolonged or repeated exposure. (liver) Toxic to aquatic life with long lasting effects.
<b>Precautionary statements</b>	
<b>Prevention</b>	: <b>P</b> rohibit fire. Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves.. Wear protective clothing. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. 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 thoroughly after handling.
<b>Response</b>	: <b>R</b> emove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water. If skin irritation occurs: Get medical advice or 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 doctor.
<b>Storage</b>	: <b>S</b> ecurely stored. Store in a well-ventilated place. Keep container tightly closed. 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.
<b>Additional information</b>	

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 - 0.1	7783-06-4

## Section 3. Composition/information on ingredients

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

**There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

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

### 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

- |                     |   |
|---------------------|---|
| <b>Eye contact</b>  | : 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.   |
| <b>Inhalation</b>   | : 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. |
| <b>Skin contact</b> | : 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.                             |
| <b>Ingestion</b>    | : 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

- |                     |   |
|---------------------|---|
| <b>Eye contact</b>  | : Causes serious eye damage.  |
| <b>Inhalation</b>   | : <input checked="" type="checkbox"/> Harmful if inhaled. Causes damage to organs following a single exposure if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. |
| <b>Skin contact</b> | : <input checked="" type="checkbox"/> Harmful in contact with skin. Causes damage to organs following a single exposure in contact with skin. Causes skin irritation. Defatting to the skin.                    |
| <b>Ingestion</b>    | : <input checked="" type="checkbox"/> Harmful if swallowed. Causes damage to organs following a single exposure if swallowed. Can cause central nervous system (CNS) depression.                                |

#### Over-exposure signs/symptoms

- |                     |  |
|---------------------|--|
| <b>Eye contact</b>  | : <input checked="" type="checkbox"/> Adverse symptoms may include the following: ,pain, watering, redness |
| <b>Inhalation</b>   | : nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness                     |
| <b>Skin contact</b> | : pain or irritation, redness, dryness, cracking, blistering may occur                                     |
| <b>Ingestion</b>    | : <input checked="" type="checkbox"/> Adverse symptoms may include the following: ,stomach pains           |

## Section 4. First aid measures

### 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, 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 with long lasting effects. 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 flames, 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. Collect spillage.

## Section 6. Accidental release measures

### 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.
- 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 a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store in original container, protected from direct sunlight. 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

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, 1/2022). 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, 10/2020). 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, 1/2022).</b>            TWA: 20 ppm, 0 times per shift, 8 hours.</p> <p><b>NIOSH REL (United States, 10/2020). 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	None. None. None.

## Section 8. Exposure controls/personal protection

Diethanolamine	<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: Inhalable fraction and vapor</p> <p><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.</p> <p><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.</p>
Morpholine	<p><b>ACGIH TLV (United States, 1/2022). 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.</p> <p><b>NIOSH REL (United States, 10/2020). 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.</p> <p><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.</p> <p><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>
Hydrogen sulfide	<p><b>ACGIH TLV (United States, 1/2022).</b> STEL: 5 ppm, 0 times per shift, 15 minutes. TWA: 1 ppm, 0 times per shift, 8 hours.</p> <p><b>NIOSH REL (United States, 10/2020).</b> CEIL: 15 mg/m<sup>3</sup>, 0 times per shift, 10 minutes. CEIL: 10 ppm, 0 times per shift, 10 minutes.</p> <p><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.</p> <p><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

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 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 point/freezing point** : Not available.
- Initial Boiling Point** : Not available.
- Boiling point, initial boiling point, and boiling range** : 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** : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapor pressure** : 47.9 kPa (359.4 mm Hg) @ 54.4°C
- Relative 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 applicable.
- Auto-ignition temperature** : Not available.



## Section 9. Physical and chemical properties

<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Dynamic (15.6°C): 3.7 cP
<b>VOC</b>	: Not available.
<b>Pour Point</b>	: <-42.8°C (<-45°F)
<b>Particle characteristics</b>	
<b>Median particle size</b>	: <input checked="" type="checkbox"/> Not applicable.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: 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.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials, reducing materials and acids.
<b>Hazardous decomposition products</b>	: 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
<input checked="" type="checkbox"/> 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	-
	LD50 Dermal	Rabbit	0.5 g/kg	-
Morpholine	LD50 Oral	Rat	1.05 g/kg	-
	LD50 Oral	Rat	1450 mg/kg	-
Hydrogen sulfide	LD50 Oral	Rat	444 ppm	4 hours
	LC50 Inhalation Gas.	Rat	444 ppm	4 hours

## Section 11. Toxicological information

	LC50 Inhalation Vapor LCLo Inhalation Gas.	Rat Man	700 mg/m <sup>3</sup> 634 ppm	4 hours 1 hours
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### Irritation/Corrosion

No available toxicity data.

### Sensitization

No available toxicity data.

### Mutagenicity

No available toxicity data.

### Carcinogenicity

### Classification

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

### Reproductive toxicity

No available toxicity data.

### Teratogenicity

No available toxicity data.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Isopropanol	Category 3	-	Narcotic effects
Methanol	Category 1	oral	optic nerve
Butanol	Category 3	-	Respiratory tract irritation
Hydrogen sulfide	Category 3 Category 3	-	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. Causes damage to organs following a single exposure if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Harmful in contact with skin. Causes damage to organs following a single exposure in contact with skin. Causes skin irritation. Defatting to the skin.
- Ingestion** : Harmful if swallowed. Causes damage to organs following a single exposure if swallowed. Can cause central nervous system (CNS) depression.

## Section 11. Toxicological information

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** :  Adverse symptoms may include the following: ,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** :  Adverse symptoms may include the following: ,stomach pains

### 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

- 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.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** :  No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
<input checked="" type="checkbox"/> CRW9152A CORROSION INHIBITOR	375.5	1121.5	25867958.8	10.1	Not available.
Isopropanol	4700	6290	Not available.	Not available.	Not available.
Methanol	100	300	64000	3	Not available.
Butanol	790	3400	Not available.	24	Not available.
Phosphates	9200	Not available.	Not available.	Not available.	Not available.
Quaternary ammonium chloride	500	1664	Not available.	Not available.	Not available.
Diethanolamine	680	3000	Not available.	Not available.	Not available.
Morpholine	1450	300	Not available.	3	Not available.
Hydrogen sulfide	Not available.	Not available.	444	0.7	Not available.

## Section 12. Ecological information

### Toxicity

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

### Persistence and degradability

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

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

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Isopropanol	0.05	-	low
Methanol	-0.77	<10	low
Butanol	1	-	low
Diethanolamine	-1.43	-	low
Morpholine	-2.55	<2.8	low

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.













## Section 12. Ecological information

**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>	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

### Additional information

#### DOT Classification

This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a. **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), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.

#### IMDG

The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules** F-E S-E

#### IATA

The environmentally hazardous substance mark may appear if required by other transportation regulations.

## Section 14. Transport information

**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.

**Transport in bulk according to IMO instruments** : 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**  Phosphates  
Quaternary ammonium chloride

**North-America NAERG** : 131

## Section 15. Regulatory information

**U.S. Federal regulations** : **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 active 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.
<input checked="" type="checkbox"/> United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Methanol	Methanol	20 - 30
<input checked="" type="checkbox"/> United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Diethanolamine	Diethanolamine	1 - 5
<input checked="" type="checkbox"/> United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	1,4-Dioxane	1,4-Dioxane; 1,4-Diethyleneoxide	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** :  **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)** - Category 1  
**SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects)** - Category 3  
**SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE)** - Category 2  
**HNOC** - Defatting irritant

**SARA 313**

## Section 15. Regulatory information

	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

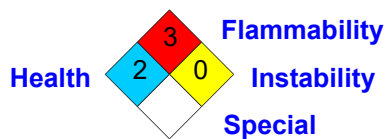
**⚠️ WARNING:** This product can expose you to chemicals including 1,4-Dioxane, which is known to the State of California to cause cancer, and methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### 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** : 1/12/2023

### 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)  
 N/A = Not available  
 SGG = Segregation Group  
 UN = United Nations

**📌** Indicates information that has changed from previously issued version.

### Notice to reader

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