Safety Data Sheet

HUM-BUG DETECTOR® KIT

Fuel Additives, Inc.

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **HUM-Bug DETECTOR® Kit**

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

Relevant identified use(s) • Detection of micro-organism contamination in hydrocarbon fuels and oils.

1.3 Details of the supplier of the safety data sheet

Manufacturer • Hammonds Fuel Additives, Inc.

6951 W Little York Rd
Houston, TX 77040
United States
www.biobor.com
sales@biobor.com

Telephone (General) • (800) 548-9166

1.4 Emergency telephone number

Manufacturer • Chemtrec - US - (800) 424-9300

Manufacturer • 001-703-527-3887 - Chemtrec INT

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Not classified

DSD/DPD • Not classified

2.2 Label Elements

CLP

Hazard statements • No label element(s) required

DSD/DPD

Risk phrases • No label element(s) required

2.3 Other Hazards

CLP • According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.

DSD/DPD • According to European Directive 1999/45/EC this material is not considered dangerous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012

- Not classified

2.2 Label elements

OSHA HCS 2012

Hazard statements

- No label element(s) required

2.3 Other hazards

OSHA HCS 2012

- This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Other Toxic Effects - D2B

2.2 Label elements

WHMIS

- Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
White mineral oil	**CAS:**8042-47-5 **EC Number:**232-455-8	37.8%	Ingestion/Oral-Rat LD50 • >5000 mg/kg	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
Glycerine	**CAS:**56-81-5 **EC Number:**200-289-5	2%	Ingestion/Oral-Rat LD50 • 12600 mg/kg	**EU DSD/DPD:** Xi; R36 **EU CLP:** Eye Irrit. 2, H319 **OSHA HCS 2012:** Eye Irrit. 2	NDA
Sodium hydroxide	**CAS:**1310-73-2 **EC Number:**215-185-5 **EU Index:**011-002-00-6	< 0.5%	NDA	**EU DSD/DPD:** Annex VI, Table 3.2: C, R35 **EU CLP:** Annex VI, Table 3.1: Skin Corr. 1A, H314 **OSHA HCS 2012:** Skin Corr. 1B; Eye Dam. 1	NDA

Phosphoric acid, potassium salt (1:2)	**CAS:**7758-11-4 **EC Number:**231-834-5	< 0.5%	NDA	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
Phosphoric acid, potassium salt (1:1)	**CAS:**7778-77-0 **EC Number:**231-913-4	< 0.5%	Skin-Rabbit LD50 • >4640 mg/kg	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
Molybdic acid, disodium salt, dihydrate	**CAS:**10102-40-6	< 0.5%	NDA	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
Manganese(II) chloride, tetrahydrate	**CAS:**13446-34-9	< 0.5%	NDA	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
Magnesium(II), sulfate, heptahydrate	**CAS:**10034-99-8	< 0.5%	NDA	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
Lactic acid, monosodium salt	**CAS:**72-17-3 **EINECS:**200-772-0	< 0.5%	NDA	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Eye Irrit. 2	NDA
Iron(3+) chloride, hexahydrate	**CAS:**10025-77-1	< 0.5%	NDA	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
Carbonic acid sodium salt (1:1)	**CAS:**144-55-8 **EC Number:**205-633-8	< 0.5%	Ingestion/Oral-Rat LD50 • 4220 mg/kg	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
Calcium chloride, dihydrate	**CAS:**10035-04-8	< 0.5%	NDA	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
Ammonium(I) nitrate (1:1)	**CAS:**6484-52-2 **EINECS:**229-347-8	< 0.5%	Ingestion/Oral-Rat LD50 • 2217 mg/kg	**EU DSD/DPD:** O; R9 N; R51-53 **EU CLP:** Ox. Liq. 3, H372; Aquatic Chronic 2, H411 **OSHA HCS 2012:** Ox. Liq. 3	NDA
2H-Tetrazolium, 2,3,5-triphenyl-, chloride	**CAS:**298-96-4 **EINECS:**206-071-6	< 0.5%	NDA	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA

See Section 16 for full text of H-statements and R-phrases.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.

Skin
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.

Ingestion
- Do NOT induce vomiting. Obtain medical attention immediately if ingested.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- LARGE FIRE: Water spray, fog or regular foam.
  SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

Unsuitable Extinguishing Media
- No data available.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Not flammable; can burn if aqueous salt solution is removed and hydrocarbon mixture is heated to temperatures at or above the flash point.

Hazardous Combustion Products
- Smoke, carbon monoxide, carbon dioxide.

5.3 Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).
  Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
  Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
  Move containers from fire area if you can do it without risk.
  LARGE FIRES: Cool containers with flooding quantities of water until well after fire is out.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Do not walk through spilled material. Wear appropriate protective clothing.

Emergency Procedures
- Keep unauthorized personnel away. Stay upwind.

6.2 Environmental precautions

- Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Stop leak if you can do it without risk.
  SMALL SPILLS: Take up with sand or other non-combustible absorbent material and place into containers for later disposal.
  LARGE SPILLS: Dike far ahead of liquid spill for later disposal.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling
- Use good safety and industrial hygiene practices. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage
- Store in a tightly closed container. Store in a cool/low-temperature, well-ventilated place away from heat and ignition sources.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Manganese(II) chloride, tetrahydrate	Ceilings	Not established	Not established	5 mg/m3 Ceiling (as Mn) *as Manganese compounds*
	STELs	Not established	3 mg/m3 STEL (as Mn) *as Manganese compounds*	Not established
	TWAs	Not established	1 mg/m3 TWA (as Mn) *as Manganese compounds*	Not established
Sodium hydroxide (1310-73-2)	TWAs	Not established	Not established	2 mg/m3 TWA
	Ceilings	2 mg/m3 Ceiling	2 mg/m3 Ceiling	Not established
Glycerine (56-81-5)	TWAs	Not established	Not established	15 mg/m3 TWA (mist, total particulate); 5 mg/m3 TWA (mist, respirable fraction)

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face

- Wear protective eyewear (goggles, face shield, or safety glasses).

Skin/Body

- No protective clothing expected to be needed.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene
NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
STEL = Short Term Exposure Limits are based on 15-minute exposures
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Two colorless immiscible liquids with slight hydrocarbon odor.
Color	Colorless	Odor	Slight hydrocarbon.
Odor Threshold	Data lacking		
General Properties			
Boiling Point	230 C(446 F) Hydrocarbon mixture	Melting Point/Freezing Point	-9 C(15.8 F) Hydrocarbon mixture

Decomposition Temperature	Data lacking	pH	6.8 to 7 Aqueous phase
Specific Gravity/Relative Density	Data lacking	Bulk Density	0.84 g/cm³ Hydrocarbon mixture
Water Solubility	Hydrocarbon mixture: insoluble in water; Aqueous phase: 100% soluble in water	Viscosity	12.3 Centistoke (cSt, cS) or mm2/sec @ 40 C(104 F) Hydrocarbon mixture
Explosive Properties	Data lacking	Oxidizing Properties:	Data lacking
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- Addition of strong oxidizers generates heat which may ignite the mineral oil.

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Incompatible materials.

10.5 Incompatible materials

- Strong Oxidizers.

10.6 Hazardous decomposition products

- Smoke, carbon monoxide.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Glycerine (2%)	56-81-5	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 12600 mg/kg; *Behavioral*:**General anesthetic**; *Behavioral*:**Muscle weakness**; *Liver*:**Other changes**; **Irritation:** Eye-Rabbit • 500 mg 24 Hour(s) • Mild irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation; **Multi-dose Toxicity:** Ingestion/Oral-Mouse TDLo • 560 g/kg 8 Week(s)-Continuous; *Lungs, Thorax, or Respiration*:**Structural or functional change in trachea or bronchi**; Ingestion/Oral-Mouse TDLo • 2800 mg/kg 25 Week(s)-Continuous; *Skin and Appendages:Other*:**Tumors**; *Tumorigenic*:**Facilitates action of known carcinogen**;

		Mutagen: Cytogenetic analysis • Ingestion/Oral-Rat • 1 g/kg; DNA Inhibition • Unreported Route-Human • Lymphocyte (Somatic cell) • 200 mmol/L; **Tumorigen / Carcinogen:** Ingestion/Oral-Mouse TDLo • 87.5 g/kg 25 Week(s)-Intermittent; *Tumorigenic*:**Equivocal tumorigenic agent by RTECS criteria**; *Lungs, Thorax, or Respiration*:**Tumors**; *Tumorigenic*:**Facilitates action of known carcinogen**
Lactic acid, monosodium salt (< 0.5%)	72-17-3	**Irritation:** Eye-Rabbit • 100 mg • Mild irritation
Sodium hydroxide (< 0.5%)	1310-73-2	**Irritation:** Eye-Rabbit • 1 % • Severe irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Severe irritation; **Mutagen:** Cytogenetic analysis • Unreported Route-Hamster • Lung (Somatic cell) • 10 mmol/L
Magnesium(II), sulfate, heptahydrate (< 0.5%)	10034-99-8	**Acute Toxicity:** Ingestion/Oral-Man TDLo • 183 mg/kg 4 Hour(s)-Intermittent; *Gastrointestinal*:**Hypermotility, diarrhea**
Phosphoric acid, potassium salt (1:1) (< 0.5%)	7778-77-0	**Acute Toxicity:** Skin-Rabbit LD50 • >4640 mg/kg
Ammonium(I) nitrate (1:1) (< 0.5%)	6484-52-2	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 2217 mg/kg; **Multi-dose Toxicity:** Ingestion/Oral-Rat TDLo • 65 mg/kg 26 Week(s)-Intermittent; *Behavioral*:**Changes in motor activity (specific assay)**; *Blood*:**Changes in serum composition (e.g., TP, bilirubin cholesterol)**; *Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels*:**Transaminases**
Calcium chloride, dihydrate (< 0.5%)	10035-04-8	**Multi-dose Toxicity:** Ingestion/Oral-Rat TDLo • 243 g/kg 35 Week(s)-Continuous; *Musculoskeletal*:**Other changes**; *Nutritional and Gross Metabolic:Gross Metabolite Changes*:**Weight loss or decreased weight gain**; **Mutagen:** Unscheduled DNA synthesis • Ingestion/Oral-Rat • 500 µg/kg
Iron(3+) chloride, hexahydrate (< 0.5%)	10025-77-1	**Multi-dose Toxicity:** Ingestion/Oral-Rat TDLo • 61250 mg/kg 14 Week(s)-Continuous; *Liver*:**Changes in liver weight**; *Kidney, Ureter, and Bladder*:**Changes in bladder weight**; *Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels*:**Dehydrogenases**
Carbonic acid sodium salt (1:1) (< 0.5%)	144-55-8	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 4220 mg/kg; **Irritation:** Eye-Rabbit • 100 mg 30 Second(s) • Mild irritation; Skin-Human • 30 mg 3 Day(s)-Intermittent • Mild irritation; **Mutagen:** Unscheduled DNA synthesis • Ingestion/Oral-Rat • 50400 mg/kg 4 Week(s)-Continuous
Molybdic acid, disodium salt, dihydrate (< 0.5%)	10102-40-6	**Reproductive:** Ingestion/Oral-Rat TDLo • 401 mg/kg (6W pre/1-21D preg); *Reproductive Effects:Maternal Effects*:**Menstrual cycle changes or disorders**; *Reproductive Effects:Effects on Embryo or Fetus*:**Fetotoxicity (except death, e.g., stunted fetus)**
White mineral oil (37.8%)	8042-47-5	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • >5000 mg/kg; **Multi-dose Toxicity:** Inhalation-Rat TCLo • 1000 mg/m³ 4 Week(s)-Intermittent; *Lungs, Thorax, or Respiration*:**Changes in lung weight**

GHS Properties	Classification
Respiratory sensitization	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Serious eye damage/Irritation	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Acute toxicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Aspiration Hazard	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Carcinogenicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Skin corrosion/Irritation	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking

Skin sensitization	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
STOT-RE	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
STOT-SE	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Toxicity for Reproduction	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Germ Cell Mutagenicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking

Potential Health Effects

Inhalation

Acute (Immediate)
- Negligible inhalation hazard at temperatures up to 38º C due to its low volatility.

Chronic (Delayed)
- No data available.

Skin

Acute (Immediate)
- Irritation is not usually a problem; not absorbed readily.

Chronic (Delayed)
- No data available.

Eye

Acute (Immediate)
- Mildly irritating, not known to cause injury.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Low Toxicity.

Chronic (Delayed)
- No data available.

Key to abbreviations
LD = Lethal Dose
TC = Toxic Concentration
TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity

- No data is available on this product.

12.2 Persistence and degradability

- No data is available on this product.

12.3 Bioaccumulative potential

- No data is available on this product.

12.4 Mobility in Soil

- No data is available on this product.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user
- None specified.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
- Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications
- None

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**EU EINECS**	**EU ELNICS**	**TSCA**
2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Yes	No	Yes	No	Yes
Ammonium(I) nitrate (1:1)	6484-52-2	Yes	No	Yes	No	Yes
Calcium chloride, dihydrate	10035-04-8	No	No	No	No	No
Carbonic acid sodium salt (1:1)	144-55-8	Yes	No	Yes	No	Yes
Glycerine	56-81-5	Yes	No	Yes	No	Yes
Iron(3+) chloride, hexahydrate	10025-77-1	No	No	No	No	No
Lactic acid, monosodium salt	72-17-3	Yes	No	Yes	No	Yes
Magnesium(II), sulfate, heptahydrate	10034-99-8	Yes	No	No	No	No

Manganese(II) chloride, tetrahydrate	13446-34-9	No	No	No	No	No
Molybdic acid, disodium salt, dihydrate	10102-40-6	No	No	No	No	No
Phosphoric acid, potassium salt (1:1)	7778-77-0	Yes	No	Yes	No	Yes
Phosphoric acid, potassium salt (1:2)	7758-11-4	Yes	No	Yes	No	Yes
Sodium hydroxide	1310-73-2	Yes	No	Yes	No	Yes
White mineral oil	8042-47-5	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	D2B
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	C
• Sodium hydroxide	1310-73-2	E (including 0.04% in aqueous solution, 0.08%, 0.4% in aqueous solution, 2%, 2.5%, 4% in aqueous solution, 5%, 10%, 16%, 20%, 40%, 50% in aqueous solution, 8.7N)
• Glycerine	56-81-5	Uncontrolled product according to WHMIS classification criteria
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Uncontrolled product according to WHMIS classification criteria
• White mineral oil	8042-47-5	Uncontrolled product according to WHMIS classification criteria
• Carbonic acid sodium salt (1:1)	144-55-8	Uncontrolled product according to WHMIS classification criteria
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Uncontrolled product according to WHMIS classification criteria
• Lactic acid, monosodium salt	72-17-3	Uncontrolled product according to WHMIS classification criteria (including 60%)
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

Canada - WHMIS - Ingredient Disclosure List

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed

• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	1 %
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed

• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	1000 lb final RQ; 454 kg final RQ
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed

• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

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

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed

• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed
• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Iron(3+) chloride, hexahydrate	10025-77-1	Not Listed
• Magnesium(II), sulfate, heptahydrate	10034-99-8	Not Listed
• Calcium chloride, dihydrate	10035-04-8	Not Listed
• Manganese(II) chloride, tetrahydrate	13446-34-9	Not Listed
• Molybdic acid, disodium salt, dihydrate	10102-40-6	Not Listed
• Ammonium(I) nitrate (1:1)	6484-52-2	Not Listed
• Sodium hydroxide	1310-73-2	Not Listed
• Glycerine	56-81-5	Not Listed
• Phosphoric acid, potassium salt (1:2)	7758-11-4	Not Listed

• White mineral oil	8042-47-5	Not Listed
• Carbonic acid sodium salt (1:1)	144-55-8	Not Listed
• Phosphoric acid, potassium salt (1:1)	7778-77-0	Not Listed
• Lactic acid, monosodium salt	72-17-3	Not Listed
• 2H-Tetrazolium, 2,3,5-triphenyl-, chloride	298-96-4	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H314 - Causes severe skin burns and eye damage.
  H319 - Causes serious eye irritation
  H372 - Causes damage to organs through prolonged or repeated exposure.
  H411 - Toxic to aquatic life with long lasting effects

  R9 - Explosive when mixed with combustible material.
  R35 - Causes severe burns.
  R36 - Irritating to eyes.
  R51 - Toxic to aquatic organisms.
  R53 - May cause long-term adverse effects in the aquatic environment.

Revision Date

- 12/August/2015

Preparation Date

- 01/January/2010

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Key to abbreviations

NDA = No data available