PENRAY COOL-TEC® 2

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

Date of issue: 07/10/2014 Revision date: 07/10/2014 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : PENRAY COOL-TEC® 2

Product code : 1112

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

Use of the substance/mixture : Cooling system treatment.

1.3. Details of the supplier of the safety data sheet

The Penray Companies, Inc.
440 Denniston Ct.
Wheeling, IL 60090
T (800) 373-6729
rotto@penray.com

1.4. Emergency telephone number

Emergency number : (800) 373-6729
CHEMTREC (800) 424-9300
CHEMTREC International +1 (703) 527-3887 24 hr

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Eye irritation 2A

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS07

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : Causes serious eye irritation.

Precautionary statements (GHS-US) : Wash hands thoroughly after handling. Wear eye protection/face protection. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Sodium silicate	(CAS No) 1344-09-8	0.1 - 1	Acute Tox. 4 (Oral) Skin Irrit. 2 Eye Dam. 1 STOT SE 3
Methanol	(CAS No) 67-56-1	< 0.1	Flam. Liq. 2 Acute Tox. 3 (Oral, Dermal, Inhalation) Eye Irrit. 2B STOT SE 1

* The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : If irritation occurs, flush skin with plenty of water. Get medical attention if irritation persists.

First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. If irritation persists, get medical attention.

First-aid measures after ingestion : If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact : May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/injuries after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/injuries after ingestion : May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Treat for surrounding material.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon.

5.3. Advice for firefighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2. Methods and material for containment and cleaning up

For containment : Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up : Scoop up material and place in a disposal container. Provide ventilation.

6.3. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Do not swallow. Avoid breathing gas/fumes/vapor/spray. Handle and open container with care. When using do not eat, drink or smoke.

Hygiene measures : Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a well-ventilated place.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sodium silicate (1344-09-8)		
USA ACGIH	ACGIH TWA	Not applicable.
USA OSHA	OSHA PEL (TWA)	Not applicable.

Methanol (67-56-1)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	250 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm

8.2. Exposure controls

Appropriate engineering controls : Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear suitable gloves.

Eye protection : Wear approved eye protection (properly fitted dust- or splash-proof chemical safety goggles) and face protection (face shield).

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental exposure controls : Maintain levels below Community environmental protection thresholds.

Other information : Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid.

Appearance : Clear.

Color : Colorless.

Odor : Odorless.

Odor threshold : No data available.

pH : 8.0 - 9.5

Relative evaporation rate (butylacetate=1) : No data available.

Melting point : No data available.

Freezing point : No data available.

Boiling point : No data available.

Flash point : No data available.

Self ignition temperature : No data available.

Decomposition temperature : No data available.

Flammability (solid, gas) : Not flammable.

Vapor pressure : No data available.

Relative vapor density at 20 °C : No data available.

Relative density : 1.095 - 1.131

Solubility : No data available.

Log Pow : No data available.

Log Kow : No data available.

Viscosity, kinematic : No data available.

Viscosity, dynamic : No data available.

Explosive properties : No data available.

Oxidising properties : No data available.

Explosive limits : No data available.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under normal storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Heat. Incompatible materials.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

1112	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	No data available.

Sodium silicate (1344-09-8)	
LD50 oral rat	1153 mg/kg
LD50 dermal rabbit	> 4640 mg/kg

Methanol (67-56-1)	
LD50 oral rat	5628 mg/kg
LD50 dermal rabbit	15800 mg/kg
LC50 inhalation rat	83.2 mg/l/4h

Skin corrosion/irritation : Based on available data, the classification criteria are not met.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitisation : Based on available data, the classification criteria are not met.

Germ cell mutagenicity : Based on available data, the classification criteria are not met.

Carcinogenicity : Based on available data, the classification criteria are not met.

Reproductive toxicity : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure) : Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure) : Based on available data, the classification criteria are not met.

Aspiration hazard : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact : May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/injuries after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/injuries after ingestion : May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

12.2. Persistence and degradability

1112	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

1112	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

SECTION 14: Transport information

In accordance with DOT

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Additional information

Other information : No supplementary information available.

Special transport precautions : Do not handle until all safety precautions have been read and understood.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Phosphonic acid, methyl-, monomethyl ester, monosodium salt	CAS No 73750-69-3
Phosphonic acid, methyl-, mono[3-(trihydroxysilyl)propyl] ester, monosodium salt	CAS No 84962-98-1

Methanol (67-56-1)	
Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0 %

15.2. US State regulations

1112	
State or local regulations	This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

SECTION 16: Other information

Indication of changes : None.

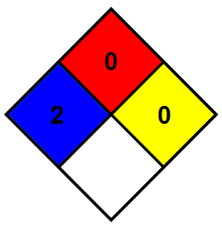
Date of issue : 07/10/2014

Other information : None.

NFPA health hazard : 2

NFPA fire hazard : 0

NFPA reactivity : 0



This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

PENRAY COOL PREP

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

Date of issue: 07/31/2014 Revision date: 07/31/2014 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name & code : PENRAY COOL PREP

Product code: 1212

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

Use of the substance/mixture : Cooling System Cleaner.

1.3. Details of the supplier of the safety data sheet

The Penray Companies, Inc.
440 Denniston Ct.
Wheeling, IL 60090
T (800) 373-6729
rotto@penray.com

1.4. Emergency telephone number

Emergency number : (800) 373-6729
CHEMTREC (800) 424-9300
CHEMTREC International +1 (703) 527-3887 24 hr

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin corrosion 1B
Serious eye damage 1
Skin sensitization 1
Reproductive toxicity 2

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS05 GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of damaging fertility or the unborn child.

Precautionary statements (GHS-US) : Do not breathe gas/mist/vapors/spray. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. If exposed or concerned: Get medical advice/attention. If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a poison center/doctor. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. 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/doctor. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

5 percent of the mixture consists of ingredient(s) of unknown acute toxicity.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Boric acid (HBO_2), sodium salt, tetrahydrate	(CAS No) 10555-76-7	3 - 7	Eye Irrit. 2A Repr. 2
Sodium nitrite	(CAS No) 7632-00-0	1 - 5	Ox. Sol. 3 Acute Tox. 3 (Oral) Eye Irrit. 2A
Tetrasodium EDTA	(CAS No) 64-02-8	1 - 5	Acute Tox. 4 (Oral) Eye Dam. 1
D-gluco-Heptonic acid, monosodium salt, (2.xi.)-	(CAS No) 31138-65-5	0.5 - 1.5	Not classified
Sodium mercaptobenzothiazole	(CAS No) 2492-26-4	0.1 - 1	Skin Corr. 1C Skin Sens. 1 Met. Corr. 1
Tolyltriazole, sodium salt	(CAS No) 64665-57-2	0.1 - 1	Acute Tox. 4 (Oral) Skin Corr. 1B
Thioglycolic acid	(CAS No) 68-11-1	0.1 - 1	Acute Tox. 2 (Inhalation) Acute Tox. 3 (Oral, Dermal) Skin Corr. 1B
Phenolphthalein	(CAS No) 77-09-8	< 0.1 [1]	Muta. 2 Carc. 2 Repr. 2
1,4-Dioxane	(CAS No) 123-91-1	< 0.1	Flam. Liq. 2 Eye Irrit. 2A Carc. 2 STOT SE 3
Acetaldehyde	(CAS No) 75-07-0	< 0.1	Flam. Liq. 1 Eye Irrit. 2A Carc. 2 STOT SE 3
Benzyl chloride	(CAS No) 100-44-7	< 0.1	Acute Tox. 3 (Inhalation) Acute Tox. 4 (Oral) Skin Irrit. 2 Eye Dam. 1 Carc. 1B STOT SE 3 STOT RE 2
Ethylene oxide	(CAS No) 75-21-8	< 0.1	Flam. Gas 1 Liquefied gas Acute Tox. 3 (Inhalation) Skin Irrit. 2 Eye Irrit. 2A Muta. 1B Carc. 1B STOT SE 3

* The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical advice/attention.

First-aid measures after skin contact : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get immediate medical advice/attention.

First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. Get medical attention immediately.

First-aid measures after ingestion : If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Rinse mouth. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : Irritating to respiratory system.

Symptoms/injuries after skin contact : Causes severe skin burns. Redness. Pain. Blisters. May cause sensitisation by skin contact.

Symptoms/injuries after eye contact : Causes serious eye damage. May cause serious chemical burns. Redness, pain, tearing.

Symptoms/injuries after ingestion : May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Treat for surrounding material.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon.

5.3. Advice for firefighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Avoid contact with skin and eyes.

6.2. Methods and material for containment and cleaning up

For containment : Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up : Scoop up material and place in a disposal container. Provide ventilation.

6.3. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not get in eyes, on skin, or on clothing. Do not breathe gas/fumes/vapor/spray. Do not swallow. Handle and open container with care. Provide adequate ventilation. Do not eat, drink or smoke when using this product.

Hygiene measures : Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store locked up.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Boric acid (HBO_2), sodium salt, tetrahydrate (10555-76-7)		
USA ACGIH	ACGIH TWA	Not applicable.
USA OSHA	OSHA PEL (TWA)	Not applicable.

Sodium nitrite (7632-00-0)		
USA ACGIH	ACGIH TWA	Not applicable.
USA OSHA	OSHA PEL (TWA)	Not applicable.

Tetrasodium EDTA (64-02-8)		
USA ACGIH	ACGIH TWA	Not applicable.
USA OSHA	OSHA PEL (TWA)	Not applicable.

D-gluco-Heptonic acid, monosodium salt, (2.xi.)- (31138-65-5)		
USA ACGIH	ACGIH TWA	Not applicable.
USA OSHA	OSHA PEL (TWA)	Not applicable.

Sodium mercaptobenzothiazole (2492-26-4)		
USA ACGIH	ACGIH TWA	Not applicable.
USA OSHA	OSHA PEL (TWA)	Not applicable.

Tolyltriazole, sodium salt (64665-57-2)		
USA ACGIH	ACGIH TWA	Not applicable.
USA OSHA	OSHA PEL (TWA)	Not applicable.

Thioglycolic acid (68-11-1)		
USA ACGIH	ACGIH TWA (ppm)	1 ppm

Phenolphthalein (77-09-8)		
USA ACGIH	ACGIH TWA	Not applicable.
USA OSHA	OSHA PEL (TWA)	Not applicable.

1,4-Dioxane (123-91-1)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	360 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm

Acetaldehyde (75-07-0)		
USA ACGIH	ACGIH Ceiling (ppm)	25 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	360 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm

Benzyl chloride (100-44-7)		
USA ACGIH	ACGIH TWA (ppm)	1 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	1 ppm

Ethylene oxide (75-21-8)		
USA ACGIH	ACGIH TWA (ppm)	1 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	1 ppm
USA OSHA	OSHA PEL (STEL) (ppm)	5 ppm

8.2. Exposure controls

Appropriate engineering controls : Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear chemically resistant protective gloves.

Eye protection : Wear approved eye protection (properly fitted dust- or splash-proof chemical safety goggles) and face protection (face shield).

Skin and body protection : Wear suitable protective clothing, including appropriate boots, boot covers, overshoes, etc., as may be appropriate.

Respiratory protection : A NIOSH approved respirator is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls : Maintain levels below Community environmental protection thresholds.

Other information : Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid.

Appearance : No data available.

Color : Purple.

Odor : Pungent.

Odor threshold : No data available.

pH	:	11.9 - 12.5
Relative evaporation rate (butylacetate=1)	:	No data available.
Melting point	:	No data available.
Freezing point	:	No data available.
Boiling point	:	No data available.
Flash point	:	No data available.
Self ignition temperature	:	No data available.
Decomposition temperature	:	No data available.
Flammability (solid, gas)	:	Not flammable.
Vapor pressure	:	No data available.
Relative vapor density at 20 °C	:	No data available.
Relative density	:	1.1 - 1.2
Solubility	:	No data available.
Log Pow	:	No data available.
Log Kow	:	No data available.
Viscosity, kinematic	:	No data available.
Viscosity, dynamic	:	No data available.
Explosive properties	:	No data available.
Oxidising properties	:	No data available.
Explosive limits	:	No data available.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under normal storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Heat. Incompatible materials.

10.5. Incompatible materials

Acids.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

1212;	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 20 mg/l/4h

Sodium nitrite (7632-00-0)	
LD50 oral rat	180 mg/kg
LC50 inhalation rat	5.5 mg/l/4h

Tetrasodium EDTA (64-02-8)	
LD50 oral rat	1658 mg/kg

Sodium mercaptobenzothiazole (2492-26-4)	
LD50 oral rat	2100 mg/kg
LD50 dermal rabbit	> 7940 mg/kg

Tolyltriazole, sodium salt (64665-57-2)	
LD50 oral rat	735 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

Thioglycolic acid (68-11-1)	
LD50 oral rat	73 mg/kg
LD50 dermal rabbit	848 mg/kg
LC50 inhalation rat	210 mg/m³/4h

Phenolphthalein (77-09-8)	
LD50 oral rat	>2000 mg/kg

1,4-Dioxane (123-91-1)	
LD50 oral rat	4200 mg/kg
LD50 dermal rabbit	7600 µl/kg
LC50 inhalation rat	48.5 mg/l/4h

Acetaldehyde (75-07-0)	
LD50 oral rat	1930 mg/kg
LC50 inhalation rat	13300 ppm/4h

Benzyl chloride (100-44-7)	
LD50 oral rat	340 mg/kg
LC50 inhalation rat	150 ppm/2h

Ethylene oxide (75-21-8)	
LD50 oral rat	72 mg/kg
LC50 inhalation rat	800 ppm/4h

Skin corrosion/irritation : Causes severe skin burns.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Based on available data, the classification criteria are not met.
Carcinogenicity : Based on available data, the classification criteria are not met.

Phenolphthalein (77-09-8)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicity Program (NTP) Status	1 - Evidence of Carcinogenicity, 3 - Reasonably anticipated to be Human Carcinogen

1,4-Dioxane (123-91-1)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicity Program (NTP) Status	1 - Evidence of Carcinogenicity, 3 - Reasonably anticipated to be Human Carcinogen

Acetaldehyde (75-07-0)	
IARC group	1 - Carcinogenic to humans, 2B - Possibly carcinogenic to humans
National Toxicity Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen

Benzyl chloride (100-44-7)	
IARC group	2A - Probably carcinogenic to humans

Ethylene oxide (75-21-8)	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	1 - Evidence of Carcinogenicity, 2 - Known Human Carcinogens
	In OSHA Specifically Regulated Carcinogen list

Reproductive toxicity : Suspected of damaging fertility or the unborn child.
Specific target organ toxicity (single exposure) : Based on available data, the classification criteria are not met.
Specific target organ toxicity (repeated exposure) : Based on available data, the classification criteria are not met.
Aspiration hazard : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : Irritating to respiratory system.
Symptoms/injuries after skin contact : Causes severe skin burns. Redness. Pain. Blisters. May cause sensitisation by skin contact.
Symptoms/injuries after eye contact : Causes serious eye damage. May cause serious chemical burns. Redness, pain, tearing.

Symptoms/injuries after ingestion : Harmful if swallowed. May cause stomach distress, nausea or vomiting.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

12.2. Persistence and degradability

1212;	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

1212;	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way.

SECTION 14: Transport information

In accordance with DOT

14.1. UN number

UN-No. : UN1760

14.2. UN proper shipping name

Proper Shipping Name : Corrosive liquids, n.o.s. (Sodium mercaptobenzothiazole, Tolyltriazole, sodium salt, Thioglycolic acid)

Department of Transportation Hazard Classes : 8

Hazard labels :

Packing group : II

14.3. Additional information

Other information : No supplementary information available.

Special transport precautions : Do not handle until all safety precautions have been read and understood.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Boric acid (HBO2), sodium salt, tetrahydrate	CAS No 10555-76-7

Sodium nitrite (7632-00-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
EPA TSCA Regulatory Flag	S - S - indicates a substance that is identified in a proposed or final Significant New Uses Rule.
SARA Section 313 - Emission Reporting	1.0 %

D-gluco-Heptonic acid, monosodium salt, (2.xi.)- (31138-65-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.

Phenolphthalein (77-09-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	0.1 %

1,4-Dioxane (123-91-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	0.1 %

Acetaldehyde (75-07-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 313 - Emission Reporting	0.1 %

Benzyl chloride (100-44-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 302 (Specific toxic chemical listings) Listed on SARA Section 313 (Specific toxic chemical listings)	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 302 Threshold Planning Quantity (TPQ)	500
SARA Section 313 - Emission Reporting	1.0 %

Ethylene oxide (75-21-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 302 (Specific toxic chemical listings) Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 302 Threshold Planning Quantity (TPQ)	1000
SARA Section 313 - Emission Reporting	0.1 %

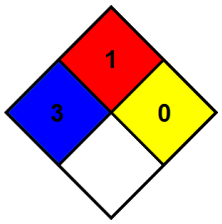
15.2. US State regulations

1212;	
State or local regulations	This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

SECTION 16: Other information

Indication of changes : None.
Date of issue : 07/31/2014
Other information : None.

NFPA health hazard : 3
NFPA fire hazard : 1
NFPA reactivity : 0



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