



# PENRAY 2001 CLEANER

## 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 2001 CLEANER  
Product code: 200105

#### 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](mailto: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

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### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
Boric acid (HBO <sub>2</sub> ), 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
Tolytriazole, 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 <sup>1</sup>	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.

<sup>1</sup> 20011

## 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).

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### 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 <sub>2</sub> ), 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.

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

<b>Thioglycolic acid (68-11-1)</b>		
USA ACGIH	ACGIH TWA (ppm)	1 ppm

<b>Phenolphthalein (77-09-8)</b>		
USA ACGIH	ACGIH TWA	Not applicable.
USA OSHA	OSHA PEL (TWA)	Not applicable.

<b>1,4-Dioxane (123-91-1)</b>		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	360 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm

<b>Acetaldehyde (75-07-0)</b>		
USA ACGIH	ACGIH Ceiling (ppm)	25 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	360 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm

<b>Benzyl chloride (100-44-7)</b>		
USA ACGIH	ACGIH TWA (ppm)	1 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	1 ppm

<b>Ethylene oxide (75-21-8)</b>		
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.

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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

<b>200105;</b>	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 20 mg/l/4h
<b>Sodium nitrite (7632-00-0)</b>	
LD50 oral rat	180 mg/kg
LC50 inhalation rat	5.5 mg/l/4h
<b>Tetrasodium EDTA (64-02-8)</b>	
LD50 oral rat	1658 mg/kg
<b>Sodium mercaptobenzothiazole (2492-26-4)</b>	
LD50 oral rat	2100 mg/kg
LD50 dermal rabbit	> 7940 mg/kg

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

<b>Thioglycolic acid (68-11-1)</b>	
LD50 oral rat	73 mg/kg
LD50 dermal rabbit	848 mg/kg
LC50 inhalation rat	210 mg/m <sup>3</sup> /4h

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

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

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

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

<b>Ethylene oxide (75-21-8)</b>	
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.

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

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

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

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

<b>Ethylene oxide (75-21-8)</b>	
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.

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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

##### 200105;

Persistence and degradability	Not established.
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#### 12.3. Bioaccumulative potential

##### 200105;

Bioaccumulative potential	Not established.
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#### 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 (HBO <sub>2</sub> ), sodium salt, tetrahydrate	CAS No 10555-76-7
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##### 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 %

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### 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

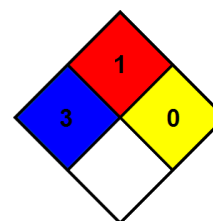
### 200105;

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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