

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

#### 1.1. Product identifier

Product name : PENRAY TOTAL INTAKE SYSTEM CLEANER  
Product code : 2512

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

Use of the substance/mixture : Intake 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

Flammable Aerosol 1  
Gases Under Pressure - Compressed Gas  
Acute toxicity 4 (Oral)  
Acute toxicity 3 (Dermal)  
Skin corrosion 1B  
Serious eye damage 1  
Reproductive toxicity 1B  
Specific target organ toxicity - Single exposure 3  
Specific target organ toxicity - Repeated exposure 2  
Aspiration hazard 1

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US) :



GHS02

GHS04

GHS05

GHS06

GHS07

GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Harmful if swallowed. Toxic in contact with skin. Causes severe skin burns and eye damage. May damage fertility or the unborn child. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

Precautionary statements (GHS-US) :

Keep away from heat/sparks/open flames/hot surfaces. -No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. 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. Use only outdoors or in a well-ventilated area. Do not breathe gas/mist/vapors/spray. If exposed or concerned: Get medical advice/attention. 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 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. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center/doctor. Do not expose to temperatures exceeding 50 °C/122 °F. Protect from sunlight. Store in a well-ventilated place. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

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

### 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
Butane	(CAS No) 106-97-8	15 - 40	Flam. Gas 1 Liquefied gas
Propane	(CAS No) 74-98-6	15 - 40	Flam. Gas 1 Liquefied gas
Toluene	(CAS No) 108-88-3	7 - 13	Flam. Liq. 2 Skin Irrit. 2 Repr. 2 STOT SE 3 STOT RE 2 Asp. Tox. 1
Acetonitrile	(CAS No) 75-05-8	3 - 7	Flam. Liq. 2 Acute Tox. 4 (Oral, Inhalation) Acute Tox. 3 (Dermal) Eye Irrit. 2A
1-Methyl-2-pyrrolidone	(CAS No) 872-50-4	3 - 7	Flam. Liq. 4 Skin Irrit. 2 Eye Irrit. 2A Repr. 1B STOT SE 3
Isopropyl alcohol	(CAS No) 67-63-0	3 - 7	Flam. Liq. 2 Eye Irrit. 2A STOT SE 3
Morpholine	(CAS No) 110-91-8	3 - 7	Flam. Liq. 3 Acute Tox. 4 (Oral, Inhalation) Acute Tox. 3 (Dermal) Skin Corr. 1B

\* 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, 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 immediate medical advice/attention.

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

- Symptoms/injuries after inhalation : Irritating to respiratory system. May cause drowsiness, dizziness and central nervous system depression. Intentional misuse of product by inhalation can result in asphyxiation or death.
- Symptoms/injuries after skin contact : Toxic in contact with skin. Causes severe skin burns. Redness. Pain. Blisters.
- 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 be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. 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 : Powder, water spray, foam, carbon dioxide.
- Unsuitable extinguishing media : None known.

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### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Extremely flammable aerosol. Products of combustion may include, and are not limited to: oxides of carbon.
- Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

### 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). Vapors may be heavier than air and may travel along the ground to a distant ignition source and flash back. Use water spray to keep fire-exposed containers cool.

## 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. Eliminate sources of ignition.

### 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 : Keep away from sources of ignition. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not get in eyes, on skin, or on clothing. Do not swallow. Do not breathe gas, fumes, vapour or spray. When using do not eat, drink or smoke. Use only outdoors or in a well-ventilated area.
- 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 locked up and out of reach of children. Do not expose at temperatures exceeding 50°C/ 122°F. Store away from direct sunlight or other heat sources. Store in a well-ventilated place.

### 7.3. Specific end use(s)

Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Butane (106-97-8)		
USA ACGIH	ACGIH STEL (ppm)	1000 ppm

Propane (74-98-6)		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

Toluene (108-88-3)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm

Acetonitrile (75-05-8)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	70 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	40 ppm

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1-Methyl-2-pyrrolidone (872-50-4)		
USA ACGIH	ACGIH TWA	Not applicable.
USA OSHA	OSHA PEL (TWA)	Not applicable.

Isopropyl alcohol (67-63-0)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	400 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	980 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	400 ppm

Morpholine (110-91-8)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	70 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	20 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.
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	: Gas/Pressurized Liquid.
Appearance	: Clear.
Colour	: Colourless.
Odour	: Solvent.
Odour threshold	: No data available.
pH	: No data available.
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)	: Flammable.
Vapour pressure	: No data available.
Relative vapour density at 20 °C	: No data available.
Relative density	: 0.94 - 1.04
Solubility	: No data available.
Log Pow	: No data available.
Log Kow	: No data available.
Viscosity, kinematic	: No data available.

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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. Extremely flammable aerosol. Contents under pressure. Container may explode if heated. Do not puncture. Do not burn.

### 10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

### 10.4. Conditions to avoid

Heat. Incompatible materials. Sources of ignition.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 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 : Harmful if swallowed. Toxic in contact with skin.

#### 2512

LD50 oral rat	1556 mg/kg
LD50 dermal rabbit	850 mg/kg
LC50 inhalation rat (mg/l)	> 5 mg/l/4h

#### Butane (106-97-8)

LC50 inhalation rat (mg/l)	658 mg/l/4h
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#### Propane (74-98-6)

LC50 inhalation rat (mg/l)	658 mg/l/4h
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#### Toluene (108-88-3)

LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	12124 mg/kg
LD50 dermal rabbit	8390 mg/kg
LC50 inhalation rat (mg/l)	28.1 mg/l/4h

#### Acetonitrile (75-05-8)

LD50 dermal rabbit	395 - 988 mg/kg
LC50 inhalation rat (ppm)	7551 ppm/8h

#### 1-Methyl-2-pyrrolidone (872-50-4)

LD50 oral rat	3598 mg/kg
LD50 dermal rabbit	8 g/kg
LC50 inhalation rat (mg/l)	> 5.1 mg/l/4h

#### Isopropyl alcohol (67-63-0)

LD50 oral rat	4396 mg/kg
LD50 dermal rat	12800 mg/kg
LD50 dermal rabbit	12870 mg/kg
LC50 inhalation rat (ppm)	72.6 mg/L/4h

#### Morpholine (110-91-8)

LD50 oral rat	1050 mg/kg
LD50 dermal rabbit	310 mg/kg

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### Morpholine (110-91-8)

LC50 inhalation rat (ppm)	8000 ppm/8h
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Skin corrosion/irritation : Causes severe skin burns.  
Serious eye damage/irritation : Causes serious eye damage.  
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.

### Toluene (108-88-3)

IARC group	3 - Not classifiable
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### Isopropyl alcohol (67-63-0)

IARC group	3 - Not classifiable
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### Morpholine (110-91-8)

IARC group	3 - Not classifiable
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Reproductive toxicity : May damage fertility or the unborn child.  
Specific target organ toxicity (single exposure) : May cause drowsiness or dizziness.  
Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure.  
Aspiration hazard : May be fatal if swallowed and enters airways.  
  
Symptoms/injuries after inhalation : Irritating to respiratory system. May cause drowsiness, dizziness and central nervous system depression. Intentional misuse of product by inhalation can result in asphyxiation or death.  
Symptoms/injuries after skin contact : Toxic in contact with skin. Causes severe skin burns. Redness. Pain. Blisters.  
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 be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. 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

#### 2512

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

#### 2512

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. The generation of waste should be avoided or minimized wherever possible.  
Additional information : Flammable vapours may accumulate in the container. Do not incinerate closed containers.

## SECTION 14: Transport information

In accordance with DOT

### 14.1. UN number

UN-No.	UN1950
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according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

### 14.2. UN proper shipping name

Proper Shipping Name : Aerosols flammable, containing substances in Class 6.1, packing group III and in Class 8, packing group II

Department of Transportation Hazard Classes : 2.1 (6.1, 8)

Hazard labels :



### 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

#### Toluene (108-88-3)

Listed on SARA Section 313 (Specific toxic chemical listings)

SARA Section 313 - Emission Reporting 1.0 %

#### Acetonitrile (75-05-8)

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 1.0 %

#### 1-Methyl-2-pyrrolidone (872-50-4)

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 1.0 %

#### Isopropyl alcohol (67-63-0)

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 1.0 %

### 15.2. US State regulations

#### 2512

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.

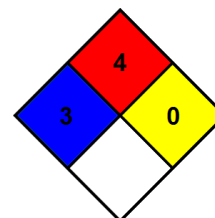
Date of issue : 06/11/2014

Other information : None.

NFPA health hazard : 3

NFPA fire hazard : 4

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