

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

1.1. Product identifier

Product form : Mixture
 Product name : Piano Napthenes Mixture
 Product code : SG-2030-02853

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

Use of the substance/mixture : Laboratory chemicals

1.3. Details of the supplier of the safety data sheet

Air Liquide
 2700 Post Oak Boulevard
 Houston, TX 77056 - USA
 T 1-800-819-1704
www.us.airliquide.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 2	H225
Acute Tox. 4 (Oral)	H302
Skin Irrit. 2	H315
Eye Dam. 1	H318
STOT SE 3	H335
STOT SE 3	H336
Asp. Tox. 1	H304

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapor
 H302 - Harmful if swallowed
 H304 - May be fatal if swallowed and enters airways
 H315 - Causes skin irritation
 H318 - Causes serious eye damage
 H336 - May cause drowsiness or dizziness
 CGA-HG22 - Corrosive to the respiratory tract.

Precautionary statements (GHS-US) :

P202 - Do not handle until all safety precautions have been read and understood
 P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
 P233 - Keep container tightly closed
 P240 - Ground/bond container and receiving equipment
 P241 - Use explosion-proof electrical, lighting, ventilating equipment
 P242 - Use only non-sparking tools
 P243 - Take precautionary measures against static discharge
 P261 - Avoid breathing mist, vapors
 P264 - Wash hands thoroughly after handling
 P271 - Use only outdoors or in a well-ventilated area
 P280 - Wear eye protection, face protection, protective clothing, protective gloves
 P284 - Wear respiratory protection. Consult respirator supplier's product information for the selection of the appropriate respiratory protection.
 P301+P312 - If swallowed: Call a doctor if you feel unwell

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P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned: Get medical advice/attention
P331 - Do NOT induce vomiting
P381 - Eliminate all ignition sources if safe to do so
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

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Name	Product identifier	%	GHS-US classification
Cyclopentane	(CAS No) 287-92-3	7.80162	Flam. Liq. 2, H225 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
Cyclohexane	(CAS No) 110-82-7	7.06397	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Methylcyclohexane	(CAS No) 108-87-2	6.40521	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
ISOPROPYLCYCLOHEXANE	(CAS No) 696-29-7	5.03528	Flam. Liq. 3, H226 Asp. Tox. 1, H304
ISOBUTYL CYCLOHEXANE	(CAS No) 1678-98-4	4.42591	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 1, H410
Methyl Cyclopentane	(CAS No) 96-37-7	4.2783	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 Asp. Tox. 1, H304
ETHYLCYCLOPENTANE	(CAS No) 1640-89-7	4.00898	Flam. Liq. 2, H225
1,1-DIMETHYLCYCLOPENTANE	(CAS No) 1638-26-2	3.90817	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302
cis,trans,trans-1,2,4-Trimethylcyclopentane	(CAS No) ND	3.68826	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Acute 1, H400
cis-1,2-Dimethylcyclohexane	(CAS No) 2207-01-4	3.65619	Flam. Liq. 2, H225 Asp. Tox. 1, H304
Propylcyclopentane	(CAS No) 2040-96-2	3.61037	Flam. Liq. 2, H225 Asp. Tox. 1, H304
trans-1,4-dimethylcyclohexane	(CAS No) 2207-04-7	3.49125	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302
Isopropylcyclopentane	(CAS No) 3875-51-2	3.44543	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
Isobutylcyclopentane	(CAS No) 3788-32-7	3.256	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400
n-Butylcyclopentane	(CAS No) 2040-95-1	3.24842	Flam. Liq. 3, H226
1,1,4-Trimethylcyclohexane	(CAS No) 7094-27-1	3.21177	Flam. Liq. 3, H226
cis,trans,trans-1,2,4-Trimethylcyclohexane	(CAS No) 7667-60-9	3.17053	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 1, H410
cis,cis,cis-1,3,5-Trimethylcyclohexane	(CAS No) 1795-27-3	3.10639	Flam. Liq. 3, H226
cis,trans,cis-1,2,4-Trimethylcyclohexane	(CAS No) 7667-59-6	3.08806	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 1, H410
trans-1,3,Dimethylcyclopentane	(CAS No) 1759-58-6	3.08348	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H336 STOT SE 3, H335 Asp. Tox. 1, H304
1,1,2-Trimethylcyclohexane	(CAS No) 7094-26-0	2.94145	Flam. Liq. 2, H225
trans-1-Methyl-2-Propylcyclohexane	(CAS No) 42806-77-9	2.58407	Flam. Liq. 3, H226
trans-1-Methyl-2-(4-methylpentyl)cyclopentane	(CAS No) 66553-50-2	2.48328	Flam. Liq. 2, H225
trans-1,2-Dimethylcyclopentane	(CAS No) 822-50-4	1.64483	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318

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Name	Product identifier	%	GHS-US classification
trans-1,2-Dimethylcyclohexane	(CAS No) 6876-23-9	1.64025	Flam. Liq. 2, H225 Asp. Tox. 1, H304
cis, trans, cis-1,2,4-Trimethylcyclopentane	(CAS No) 16883-48-0	1.64025	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Acute 1, H400
cis,trans,cis-1,2,3-Trimethylcyclopentane	(CAS No) 19374-46-0	1.55778	Flam. Liq. 2, H225
1-Ethyl-1-Methylcyclopentane	(CAS No) 16747-50-5	1.05379	Flam. Liq. 2, H225
cis,cis,cis-1,2,3-Trimethylcyclopentane	(CAS No) 2613-69-6	0.79263	Flam. Liq. 1, H224
CIS-1,3-DIMETHYLCYCLOPENTANE	(CAS No) 2532-58-3	0.67808	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
- First-aid measures after ingestion : Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

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

- Symptoms/injuries after inhalation : May cause drowsiness or dizziness. Irritation of respiratory tract.
- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Causes serious eye damage.
- Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.
- Symptoms/injuries upon intravenous administration : Not known.
- Chronic symptoms : Adverse effects not expected from this product.

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

If you feel unwell, seek medical advice. If breathing is difficult, give oxygen.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : This product is flammable.
- Explosion hazard : Product is not explosive. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
- Reactivity : None known.

5.3. Advice for firefighters

- Firefighting instructions : In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.
- Protection during firefighting : Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Ensure adequate ventilation.

6.1.1. For non-emergency personnel

- Protective equipment : Wear protective equipment consistent with the site emergency plan.

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Emergency procedures : Escape the danger area by the closest safe route. Close doors and windows of adjacent premises. Keep containers closed. Mark the danger area. Seal off low-lying areas. Keep upwind.

6.1.2. For emergency responders

Protective equipment : Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Equip cleanup crew with proper protection.

Emergency procedures : Evacuate and limit access. Ventilate area. Remove ignition sources. Monitor concentration of released product. Consider the risk of potentially explosive atmospheres. Wear self-contained breathing apparatus when entering atmospheres of unknown contaminant concentration until proven to be safe.

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

For containment : Try to stop release if safe to do so. Contain and collect spillages with non-combustible absorbent materials, e.g. vermiculite & sand.

Methods for cleaning up : Dispose of this material and its container in accordance with local regulations.

6.4. Reference to other sections

See also Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable. In use, may form flammable vapor-air mixture.

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Use only non-sparking tools.

Hygiene measures : Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep container closed when not in use. Keep cool. Store in well ventilated area. Store locked up.

Incompatible products : None known.

Incompatible materials : Oxidizing materials. Air.

7.3. Specific end use(s)

See Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Piano Napthenes Mixture		
ACGIH	Not applicable	
OSHA	Not applicable	
Cyclopentane (287-92-3)		
ACGIH	ACGIH TWA (ppm)	600 ppm
OSHA	Not applicable	
Methyl Cyclopentane (96-37-7)		
ACGIH	Not applicable	
OSHA	Not applicable	
Cyclohexane (110-82-7)		
ACGIH	ACGIH TWA (ppm)	100 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	1050 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	300 ppm

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1,1-DIMETHYLCYCLOPENTANE (1638-26-2)		
ACGIH	Not applicable	
OSHA	Not applicable	
CIS-1,3-DIMETHYLCYCLOPENTANE (2532-58-3)		
ACGIH	Not applicable	
OSHA	Not applicable	
trans-1,3-Dimethylcyclopentane (1759-58-6)		
ACGIH	Not applicable	
OSHA	Not applicable	
trans-1,2-Dimethylcyclopentane (822-50-4)		
ACGIH	Not applicable	
OSHA	Not applicable	
Methylcyclohexane (108-87-2)		
ACGIH	ACGIH TWA (ppm)	400 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	2000 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	500 ppm
ETHYLCYCLOPENTANE (1640-89-7)		
ACGIH	Not applicable	
OSHA	Not applicable	
cis, trans, cis-1,2,4-Trimethylcyclopentane (16883-48-0)		
ACGIH	Not applicable	
OSHA	Not applicable	
cis,trans,cis-1,2,3-Trimethylcyclopentane (19374-46-0)		
ACGIH	Not applicable	
OSHA	Not applicable	
cis,trans,trans-1,2,4-Trimethylcyclopentane (ND)		
ACGIH	Not applicable	
OSHA	Not applicable	
trans-1,4-dimethylcyclohexane (2207-04-7)		
ACGIH	Not applicable	
OSHA	Not applicable	
1-Ethyl-1-Methylcyclopentane (16747-50-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
trans-1,2-Dimethylcyclohexane (6876-23-9)		
ACGIH	Not applicable	
OSHA	Not applicable	
cis,cis,cis-1,2,3-Trimethylcyclopentane (2613-69-6)		
ACGIH	Not applicable	
OSHA	Not applicable	
Isopropylcyclopentane (3875-51-2)		
ACGIH	Not applicable	

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Isopropylcyclopentane (3875-51-2)	
OSHA	Not applicable

cis-1,2-Dimethylcyclohexane (2207-01-4)	
ACGIH	Not applicable
OSHA	Not applicable

Propylcyclopentane (2040-96-2)	
ACGIH	Not applicable
OSHA	Not applicable

cis,cis,cis-1,3,5-Trimethylcyclohexane (1795-27-3)	
ACGIH	Not applicable
OSHA	Not applicable

1,1,4-Trimethylcyclohexane (7094-27-1)	
ACGIH	Not applicable
OSHA	Not applicable

cis,trans,trans-1,2,4-Trimethylcyclohexane (7667-60-9)	
ACGIH	Not applicable
OSHA	Not applicable

cis,trans,cis-1,2,4-Trimethylcyclohexane (7667-59-6)	
ACGIH	Not applicable
OSHA	Not applicable

1,1,2-Trimethylcyclohexane (7094-26-0)	
ACGIH	Not applicable
OSHA	Not applicable

Isobutylcyclopentane (3788-32-7)	
ACGIH	Not applicable
OSHA	Not applicable

ISOPROPYLCYCLOHEXANE (696-29-7)	
ACGIH	Not applicable
OSHA	Not applicable

n-Butylcyclopentane (2040-95-1)	
ACGIH	Not applicable
OSHA	Not applicable

ISOBUTYL CYCLOHEXANE (1678-98-4)	
ACGIH	Not applicable
OSHA	Not applicable

trans-1-Methyl-2-Propylcyclohexane (42806-77-9)	
ACGIH	Not applicable
OSHA	Not applicable

trans-1-Methyl-2-(4-methylpentyl)cyclopentane (66553-50-2)	
ACGIH	Not applicable
OSHA	Not applicable

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8.2. Exposure controls

Appropriate engineering controls	: Ensure exposure is below occupational exposure limits. Provide adequate general and local exhaust ventilation. Consider work permit system e.g. for maintenance activities.
Hand protection	: 29 CFR 1910.138: Hand Protection. Wear chemically resistant protective gloves.
Eye protection	: Chemical goggles or face shield. 29 CFR 1910.133: Eye and Face Protection.
Skin and body protection	: Wear suitable protective clothing, e.g. - lab coats, coveralls or flame resistant clothing.
Respiratory protection	: Wear respiratory protection. Consult respirator supplier's product information for the selection of the appropriate respiratory protection.
Thermal hazard protection	: None necessary during normal and routine operations.
Environmental exposure controls	: Refer to local regulations for restrictions on release of emissions to the atmosphere. For further information refer to section 13.
Other information	: Wear safety shoes while handling containers. 29 CFR 1910.136: Foot Protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: No data available.
Color	: No data available
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: See Section 2.1 and 2.2
Explosion limits	: No data available
Explosive properties	: Without adequate ventilation formation of explosive mixtures may be possible.
Oxidizing properties	: None.
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Molecular mass	: Not applicable.
Relative gas density	: Heavier than air
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

Additional information	: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.
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SECTION 10: Stability and reactivity

10.1. Reactivity

None known.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

vapors may form flammable and explosive mixture with air.

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10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Oxidizing materials. Air.

10.6. Hazardous decomposition products

Under normal conditions of storage and use hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

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ATE US (oral)	1256.327 mg/kg body weight
Methyl Cyclopentane (96-37-7)	
ATE US (oral)	500.000 mg/kg body weight
Cyclohexane (110-82-7)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	13.9 mg/l/4h
LC50 inhalation rat (ppm)	9500 ppm/4h
1,1-DIMETHYLCYCLOPENTANE (1638-26-2)	
ATE US (oral)	500.000 mg/kg body weight
CIS-1,3-DIMETHYLCYCLOPENTANE (2532-58-3)	
ATE US (oral)	500.000 mg/kg body weight
trans-1,3,Dimethylcyclopentane (1759-58-6)	
ATE US (oral)	500.000 mg/kg body weight
trans-1,2-Dimethylcyclopentane (822-50-4)	
ATE US (oral)	500.000 mg/kg body weight
cis, trans, cis-1,2,4-Trimethylcyclopentane (16883-48-0)	
ATE US (oral)	500.000 mg/kg body weight
cis,trans,trans-1,2,4-Trimethylcyclopentane (ND)	
ATE US (oral)	500.000 mg/kg body weight
trans-1,4-dimethylcyclohexane (2207-04-7)	
ATE US (oral)	500.000 mg/kg body weight
Isopropylcyclopentane (3875-51-2)	
ATE US (oral)	500.000 mg/kg body weight
cis,trans,trans-1,2,4-Trimethylcyclohexane (7667-60-9)	
ATE US (oral)	500.000 mg/kg body weight
cis,trans,cis-1,2,4-Trimethylcyclohexane (7667-59-6)	
ATE US (oral)	500.000 mg/kg body weight
Isobutylcyclopentane (3788-32-7)	
ATE US (oral)	500.000 mg/kg body weight
ISOBUTYL CYCLOHEXANE (1678-98-4)	
ATE US (oral)	500.000 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified

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Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : May be fatal if swallowed and enters airways.

Symptoms/injuries after inhalation : May cause drowsiness or dizziness. Irritation of respiratory tract.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.

Symptoms/injuries upon intravenous administration : Not known.

Chronic symptoms : Adverse effects not expected from this product.

SECTION 12: Ecological information

12.1. Toxicity

Cyclopentane (287-92-3)

EC50 Daphnia 1	10.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
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Cyclohexane (110-82-7)

LC50 fish 1	3.96 - 5.18 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
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EC50 other aquatic organisms 1	> 500 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)
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LC50 fish 2	23.03 - 42.07 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
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12.2. Persistence and degradability

No additional information available

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12.3. Bioaccumulative potential

Cyclopentane (287-92-3)	
Log Pow	2.05

Cyclohexane (110-82-7)	
Log Pow	3.44

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

- Effect on ozone layer : No known effects from this product.
- Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Waste treatment methods : Contact supplier if guidance is required. Disposal through controlled incineration or authorized waste dump. Ensure that the emission levels from local regulations or operating permits are not exceeded.
- Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

- Transport document description : UN3295 Hydrocarbons, liquid, n.o.s., 3, II
- UN-No.(DOT) : UN3295
- Proper Shipping Name (DOT) : Hydrocarbons, liquid, n.o.s.
- Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
- Hazard labels (DOT) : 3 - Flammable liquid



- Packing group (DOT) : II - Medium Danger
- DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
- DOT Packaging Bulk (49 CFR 173.xxx) : 242

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DOT Special Provisions (49 CFR 172.102)	: 144 - If transported as a residue in an underground storage tank (UST), as defined in 40 CFR 280.12, that has been cleaned and purged or rendered inert according to the American Petroleum Institute (API) Standard 1604 (IBR, see 171.7 of this subchapter), then the tank and this material are not subject to any other requirements of this subchapter. However, sediments remaining in the tank that meet the definition for a hazardous material are subject to the applicable regulations of this subchapter. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F). TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

Additional information

Other information : No supplementary information available.

ADR

Transport document description	: UN 3295 HYDROCARBONS, LIQUID, N.O.S., 3, II, (D/E)
Packing group (ADR)	: II
Class (ADR)	: 3 - Flammable liquid
Hazard identification number (Kemler No.)	: 33
Classification code (ADR)	: F1
Hazard labels (ADR)	: 3 - Flammable liquids



Orange plates	: An orange rectangular label with a black border. It is divided into two horizontal sections. The top section contains the number '33' and the bottom section contains the number '3295'.
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Tunnel restriction code (ADR)	: D/E
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E2

Transport by sea

UN-No. (IMDG)	: 3295
Proper Shipping Name (IMDG)	: Hydrocarbons, Liquid, n.o.s
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: II - substances presenting medium danger

Air transport

UN-No. (IATA)	: 3295
Proper Shipping Name (IATA)	: Hydrocarbons, Liquid, n.o.s

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Class (IATA) : 3 - Flammable Liquids

Packing group (IATA) : II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Cyclopentane (287-92-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Methyl Cyclopentane (96-37-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Cyclohexane (110-82-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

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 %

Methylcyclohexane (108-87-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Cyclopentane (287-92-3)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class B Division 2 - Flammable Liquid

Methyl Cyclopentane (96-37-7)

Listed on the Canadian DSL (Domestic Substances List)

Cyclohexane (110-82-7)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class B Division 2 - Flammable Liquid
Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Methylcyclohexane (108-87-2)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class B Division 2 - Flammable Liquid

EU-Regulations

Cyclopentane (287-92-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Methyl Cyclopentane (96-37-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Cyclohexane (110-82-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Methylcyclohexane (108-87-2)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

No additional information available

National regulations

Cyclopentane (287-92-3)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)

Methyl Cyclopentane (96-37-7)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Cyclohexane (110-82-7)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)

Methylcyclohexane (108-87-2)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

Cyclopentane (287-92-3)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

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Methyl Cyclopentane (96-37-7)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Cyclohexane (110-82-7)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Methylcyclohexane (108-87-2)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

- Indication of changes : Revised safety data sheet in accordance with OSHA final rule on GHS implementation promulgated March 26, 2012.
- Other information : This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product.

Full text of H-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 1	Flammable liquids Category 1
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

SDS US (GHS HazCom 2012)

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This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of Air Liquide America Corporation's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this product is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.