

5 Components in Propylene

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 07/01/2015

Version: 2.0

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

1.1. Product identifier

Product form : Mixture
Product name : 5 Components in Propylene
Product code : SG-2006-02663

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

Use of the substance/mixture : Test gas/Calibration gas.

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. Gas 1 H220
Liquefied gas H280

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)

: H220 - Extremely flammable gas

H280 - Contains gas under pressure; may explode if heated

OSHA-H01 - May displace oxygen and cause rapid suffocation

CGA-HG01 - May cause frostbite

CGA-HG04 - May form explosive mixtures with air

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

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear eye protection, face protection, protective gloves, protective clothing

P302 - IF ON SKIN: Thaw frostbitten parts with lukewarm water. Do not rub affected area, Get immediate medical advice/attention

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

P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely

P381 - Eliminate all ignition sources if safe to do so

P403 - Store in a well-ventilated place

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)

CGA-PG05 - Use a back flow preventive device in the piping

CGA-PG06 - Close valve after each use and when empty

CGA-PG10 - Use only with equipment rated for cylinder pressure

CGA-PG14 - Approach suspected leak area with caution

CGA-PG21 - Open valve slowly

5 Components in Propylene

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and 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

| Name | Product identifier | % | GHS-US classification |
|-------------------|--------------------|-------------------|---|
| Propylene | (CAS No) 115-07-1 | 94.9004 - 99.9995 | Flam. Gas 1, H220 Liquefied gas, H280 |
| Carbon dioxide | (CAS No) 124-38-9 | 0.00001 - 2.9999 | Liquefied gas, H280 |
| Methyl alcohol | (CAS No) 67-56-1 | 0.00001 - 0.9999 | Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapour), H332 STOT SE 1, H370 |
| n-Propanol | (CAS No) 71-23-8 | 0.00001 - 0.5 | Flam. Liq. 1, H224 Eye Dam. 1, H318 STOT SE 3, H336 |
| Isopropyl alcohol | (CAS No) 67-63-0 | 0.00001 - 0.4999 | Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336 |
| Carbon monoxide | (CAS No) 630-08-0 | 0.00001 - 0.0999 | Flam. Gas 1, H220 Compressed gas, H280 Acute Tox. 3 (Inhalation:gas), H331 Repr. 1A, H360 STOT RE 1, H372 |

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 : Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

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

Symptoms/injuries after inhalation : May displace oxygen and cause rapid suffocation.

Symptoms/injuries after skin contact : May cause frostbite.

Symptoms/injuries after eye contact : Contact with the product may cause cold burns or frostbite.

Symptoms/injuries after ingestion : Ingestion is not considered a potential route of exposure.

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 : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. May form flammable/explosive vapor-air mixture.

5 Components in Propylene

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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.

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

Try to stop release if safe to do so.

6.3. Methods and material for containment and cleaning up

For containment

: Try to stop release if safe to do so.

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

: Pressurized container: Do not pierce or burn, even after use. Use equipment rated for cylinder pressure. Close valve after each use and when empty. 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

: Do not expose to temperatures exceeding 52°C (125°F). Keep container closed when not in use. Protect cylinder from physical damage. Store in well ventilated area.

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

5 Components in Propylene

| | |
|-------|----------------|
| ACGIH | Not applicable |
| OSHA | Not applicable |

5 Components in Propylene

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| n-Propanol (71-23-8) | | |
|------------------------------------|------------------------|------------|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |
| Isopropyl alcohol (67-63-0) | | |
| ACGIH | ACGIH TWA (ppm) | 200 ppm |
| ACGIH | ACGIH STEL (ppm) | 400 ppm |
| OSHA | OSHA PEL (TWA) (mg/m³) | 980 mg/m³ |
| OSHA | OSHA PEL (TWA) (ppm) | 400 ppm |
| Methyl alcohol (67-56-1) | | |
| ACGIH | ACGIH TWA (ppm) | 200 ppm |
| ACGIH | ACGIH STEL (ppm) | 250 ppm |
| OSHA | OSHA PEL (TWA) (mg/m³) | 260 mg/m³ |
| OSHA | OSHA PEL (TWA) (ppm) | 200 ppm |
| Carbon dioxide (124-38-9) | | |
| ACGIH | ACGIH TWA (ppm) | 5000 ppm |
| ACGIH | ACGIH STEL (ppm) | 30000 ppm |
| OSHA | OSHA PEL (TWA) (mg/m³) | 9000 mg/m³ |
| OSHA | OSHA PEL (TWA) (ppm) | 5000 ppm |
| Carbon monoxide (630-08-0) | | |
| ACGIH | ACGIH TWA (ppm) | 25 ppm |
| OSHA | OSHA PEL (TWA) (mg/m³) | 55 mg/m³ |
| OSHA | OSHA PEL (TWA) (ppm) | 50 ppm |
| Propylene (115-07-1) | | |
| ACGIH | ACGIH TWA (ppm) | 500 ppm |
| OSHA | Not applicable | |

8.2. Exposure controls

Appropriate engineering controls

: Ensure exposure is below occupational exposure limits. Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Oxygen detectors should be used when asphyxiating gases may be released. Consider work permit system e.g. for maintenance activities.

Hand protection

: Wear working gloves when handling gas containers. 29 CFR 1910.138: Hand Protection.

Eye protection

: Wear safety glasses with side shields. 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

: None necessary during normal and routine operations. See Sections 5 & 6.

Thermal hazard protection

: None necessary during normal and routine operations.

Environmental exposure controls

: Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

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

: Gas

Appearance

: Clear, colorless gas.

Color

: Colorless

Odor

: No data available

Odor threshold

: No data available

pH

: No data available

Melting point

: No data available

5 Components in Propylene

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|---|---|
| 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 | : No Data Available |
| 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. |
|------------------------|--|

SECTION 10: Stability and reactivity

10.1. Reactivity

None known.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Can form explosive mixture with air.

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 | : Not classified |
|----------------|------------------|

Isopropyl alcohol (67-63-0)

| | |
|---------------------------|-----------------------------------|
| LD50 oral rat | 4396 mg/kg |
| LD50 dermal rabbit | 12800 mg/kg |
| LC50 inhalation rat (ppm) | 22624 ppm/4h (Exposure time: 8 h) |
| ATE US (oral) | 4396.000 mg/kg body weight |
| ATE US (dermal) | 12800.000 mg/kg body weight |
| ATE US (gases) | 22624.000 ppmV/4h |

Methyl alcohol (67-56-1)

| | |
|---------------|------------|
| LD50 oral rat | 5628 mg/kg |
|---------------|------------|

5 Components in Propylene

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Methyl alcohol (67-56-1)

| | |
|----------------------------|-----------------------------|
| LD50 dermal rabbit | 17100 mg/kg |
| LC50 inhalation rat (mg/l) | 3.273 mg/l/4h |
| LC50 inhalation rat (ppm) | 2501 ppm/4h |
| ATE US (oral) | 5628.000 mg/kg body weight |
| ATE US (dermal) | 17100.000 mg/kg body weight |
| ATE US (gases) | 2501.000 ppmV/4h |
| ATE US (vapors) | 3.273 mg/l/4h |
| ATE US (dust, mist) | 3.273 mg/l/4h |

Carbon dioxide (124-38-9)

| | |
|---------------------------|---------------|
| LC50 inhalation rat (ppm) | 820000 ppm/4h |
|---------------------------|---------------|

Carbon monoxide (630-08-0)

| | |
|---------------------------|------------------|
| LC50 inhalation rat (ppm) | 1880 ppm/4h |
| ATE US (gases) | 1880.000 ppmV/4h |

Propylene (115-07-1)

| | |
|----------------------------|-----------------|
| LC50 inhalation rat (mg/l) | 658 mg/l/4h |
| LC50 inhalation rat (ppm) | 49957.23 ppm/4h |

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Isopropyl alcohol (67-63-0)

| | |
|------------|----------------------|
| IARC group | 3 - Not classifiable |
|------------|----------------------|

Propylene (115-07-1)

| | |
|------------|----------------------|
| IARC group | 3 - Not classifiable |
|------------|----------------------|

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : May displace oxygen and cause rapid suffocation.

Symptoms/injuries after skin contact : May cause frostbite.

Symptoms/injuries after eye contact : Contact with the product may cause cold burns or frostbite.

Symptoms/injuries after ingestion : Ingestion is not considered a potential route of exposure.

Symptoms/injuries upon intravenous administration : Not known.

Chronic symptoms : Adverse effects not expected from this product.

SECTION 12: Ecological information

12.1. Toxicity

Isopropyl alcohol (67-63-0)

| | |
|--------------------------------|---|
| LC50 fish 1 | 9640 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| EC50 Daphnia 1 | 13299 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| EC50 other aquatic organisms 1 | > 1000 mg/l (Exposure time: 96 h - Species: Desmodesmus subspicatus) |
| LC50 fish 2 | 11130 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| EC50 other aquatic organisms 2 | > 1000 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus) |

Methyl alcohol (67-56-1)

| | |
|-------------|--|
| LC50 fish 1 | 28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
|-------------|--|

5 Components in Propylene

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Methyl alcohol (67-56-1)

LC50 fish 2

> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

12.2. Persistence and degradability

Carbon dioxide (124-38-9)

Persistence and degradability No ecological damage caused by this product.

Carbon monoxide (630-08-0)

Persistence and degradability Will not undergo hydrolysis. Not readily biodegradable. Not applicable for inorganic gases.

Propylene (115-07-1)

Persistence and degradability The substance is biodegradable. Unlikely to persist.

12.3. Bioaccumulative potential

Isopropyl alcohol (67-63-0)

Log Pow 0.05 (at 25 °C)

Methyl alcohol (67-56-1)

BCF fish 1 < 10

Log Pow -0.77

Carbon dioxide (124-38-9)

BCF fish 1 (no bioaccumulation)

Log Pow 0.83

Bioaccumulative potential No ecological damage caused by this product.

Carbon monoxide (630-08-0)

Log Pow 1.78

Bioaccumulative potential Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

Propylene (115-07-1)

Log Pow 1.77

Bioaccumulative potential Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

12.4. Mobility in soil

Carbon dioxide (124-38-9)

Ecology - soil No ecological damage caused by this product.

Carbon monoxide (630-08-0)

Ecology - soil Because of its high volatility, the product is unlikely to cause ground or water pollution.

Propylene (115-07-1)

Ecology - soil Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5. Other adverse effects

Effect on ozone layer : No known effects from this product.

Effect on the global warming : Contains greenhouse gas(es) not covered by 842/2006/EC.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods

: Contact supplier if guidance is required. Do not discharge into any place where its accumulation could be dangerous. Ensure that the emission levels from local regulations or operating permits are not exceeded. Waste gas should be flared through a suitable burner with flash back arrestor. Do not discharge into areas where there is a risk of forming an explosive mixture with air.

Waste disposal recommendations

: Refer to the CGA Pamphlet P-63 "Disposal of Gases" available at www.cganet.com for more guidance on suitable disposal methods.

5 Components in Propylene

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description

: UN3161 Liquefied gas, flammable, n.o.s.

UN-No.(DOT)

: UN3161

Proper Shipping Name (DOT)

: Liquefied gas, flammable, n.o.s.

Hazard labels (DOT)

: 2.1 - Flammable gas



DOT Packaging Non Bulk (49 CFR 173.xxx)

: 304

DOT Packaging Bulk (49 CFR 173.xxx)

: 314;315

DOT Symbols

: G - Identifies PSN requiring a technical name

DOT Special Provisions (49 CFR 172.102)

: T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.

DOT Packaging Exceptions (49 CFR 173.xxx)

: 306

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)

: Forbidden

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)

: 150 kg

DOT Vessel Stowage Location

: D - The material must be stowed "on deck only" 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, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.

DOT Vessel Stowage Other

: 40 - Stow "clear of living quarters"

Additional information

Other information

: No supplementary information available.

ADR

Transport document description

: UN 3161 LIQUEFIED GAS, FLAMMABLE, N.O.S., 2.1, (B/D)

Class (ADR)

: 2 - Gases

Hazard identification number (Kemler No.)

: 23

Classification code (ADR)

: 2F

Hazard labels (ADR)

: 2.1 - Flammable gases



Orange plates



Tunnel restriction code (ADR)

: B/D

Limited quantities (ADR)

: 0

Excepted quantities (ADR)

: E0

Transport by sea

UN-No. (IMDG)

: 3161

Proper Shipping Name (IMDG)

: LIQUEFIED GAS, FLAMMABLE, N.O.S.

Class (IMDG)

: 2 - Gases

5 Components in Propylene

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Air transport

| | |
|-----------------------------|------------------------------------|
| UN-No. (IATA) | : 3161 |
| Proper Shipping Name (IATA) | : LIQUEFIED GAS, FLAMMABLE, N.O.S. |
| Class (IATA) | : 2 |

SECTION 15: Regulatory information

15.1. US Federal regulations

Isopropyl alcohol (67-63-0)

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 % (only if manufactured by the strong acid process, no supplier notification) |

Methyl alcohol (67-56-1)

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

| | |
|---------------------------------------|-------|
| SARA Section 313 - Emission Reporting | 1.0 % |
|---------------------------------------|-------|

Carbon dioxide (124-38-9)

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

Carbon monoxide (630-08-0)

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

Propylene (115-07-1)

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

| | |
|---------------------------------------|-------|
| SARA Section 313 - Emission Reporting | 1.0 % |
|---------------------------------------|-------|

15.2. International regulations

CANADA

No additional information available

Isopropyl alcohol (67-63-0)

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 |
|----------------------|--|

Methyl alcohol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

| | |
|----------------------|---|
| WHMIS Classification | Class B Division 2 - Flammable Liquid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
|----------------------|---|

Carbon dioxide (124-38-9)

Listed on the Canadian DSL (Domestic Substances List)

| | |
|----------------------|--------------------------|
| WHMIS Classification | Class A - Compressed Gas |
|----------------------|--------------------------|

Carbon monoxide (630-08-0)

Listed on the Canadian DSL (Domestic Substances List)

| | |
|----------------------|--|
| WHMIS Classification | Class A - Compressed Gas Class B Division 1 - Flammable Gas Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects |
|----------------------|--|

Propylene (115-07-1)

Listed on the Canadian DSL (Domestic Substances List)

| | |
|----------------------|--|
| WHMIS Classification | Class A - Compressed Gas Class B Division 1 - Flammable Gas |
|----------------------|--|

EU-Regulations

No additional information available

Isopropyl alcohol (67-63-0)

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

5 Components in Propylene

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Methyl alcohol (67-56-1)

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

Carbon dioxide (124-38-9)

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

Carbon monoxide (630-08-0)

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

Propylene (115-07-1)

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

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

Isopropyl alcohol (67-63-0)

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 alcohol (67-56-1)

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)

Japanese Poisonous and Deleterious Substances Control Law

Listed on the Canadian IDL (Ingredient Disclosure List)

Carbon dioxide (124-38-9)

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)

Carbon monoxide (630-08-0)

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)

Propylene (115-07-1)

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)

15.3. US State regulations

5 Components in Propylene

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Methyl alcohol (67-56-1)

| | | | | |
|---|---|---|---|----------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) |
| No | Yes | No | No | |

Carbon monoxide (630-08-0)

| | | | | |
|---|---|---|---|----------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) |
| No | Yes | No | No | |

Isopropyl alcohol (67-63-0)

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

Methyl alcohol (67-56-1)

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

Carbon dioxide (124-38-9)

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

Carbon monoxide (630-08-0)

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

Propylene (115-07-1)

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

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.

5 Components in Propylene

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases:

| | |
|----------------------------------|--|
| Acute Tox. 3 (Inhalation:gas) | Acute toxicity (inhalation:gas) Category 3 |
| Acute Tox. 4 (Inhalation:vapour) | Acute toxicity (inhalation:vapour) Category 4 |
| Compressed gas | Gases under pressure Compressed gas |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Eye Irrit. 2A | Serious eye damage/eye irritation Category 2A |
| Flam. Gas 1 | Flammable gases Category 1 |
| Flam. Liq. 1 | Flammable liquids Category 1 |
| Flam. Liq. 2 | Flammable liquids Category 2 |
| Liquefied gas | Gases under pressure Liquefied gas |
| Repr. 1A | Reproductive toxicity Category 1A |
| STOT RE 1 | Specific target organ toxicity (repeated exposure) Category 1 |
| STOT SE 1 | Specific target organ toxicity (single exposure) Category 1 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H220 | Extremely flammable gas |
| H224 | Extremely flammable liquid and vapor |
| H225 | Highly flammable liquid and vapor |
| H280 | Contains gas under pressure; may explode if heated |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H331 | Toxic if inhaled |
| H332 | Harmful if inhaled |
| H336 | May cause drowsiness or dizziness |
| H360 | May damage fertility or the unborn child |
| H370 | Causes damage to organs |
| H372 | Causes damage to organs through prolonged or repeated exposure |

SDS US (GHS HazCom 2012)

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.