

**Propylene (Polymer Grade, Unodorized)**

Version 2.6

Revision Date 2022-09-07

According to Regulation (EC) No. 1907/2006, Regulation (EC) No. 2015/830

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1****Product information**

Product Name : Propylene (Polymer Grade, Unodorized)
Material : 1103433, 1102933, 1021731, 1015413, 1026827, 1029232

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

Relevant Identified Uses Supported : Manufacture
Use as an intermediate
Formulation
Use in polymer production – industrial
Use as a fuel - industrial
Use as a fuel – professional
Use as a fuel – consumer
Use as a propellant – industrial
Use as a propellant – professional
Use as a propellant – consumer

1.3**Details of the supplier of the safety data sheet**

Company : Chevron Phillips Chemical Company LP
10001 Six Pines Drive
The Woodlands, TX 77380

Local : Chevron Phillips Chemicals International N.V.
Airport Plaza (Stockholm Building)
Leonardo Da Vincilaan 19
1831 Diegem
Belgium

SDS Requests: (800) 852-5530
Responsible Party: Product Safety Group
Email:sds@cpchem.com

1.4**Emergency telephone:**

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Health:

866.442.9628 (North America)

1.832.813.4984 (International)

Transport:

CHEMTREC 800.424.9300 or 703.527.3887(int'l)

Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090

Mexico CHEMTREC 01-800-681-9531 (24 hours)

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Argentina: +(54)-1159839431

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)

Belgium: 070 245 245 (24 hours/day, 7 days/week)

Bulgaria: +359 2 9154 233

Croatia: +3851 2348 342 (24 hours/day, 7 days/week)

Cyprus: 1401

Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402

Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212

Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Finland: 0800 147 111 09 471 977 (24 hours/day)

France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)

Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Greece: (0030) 2107793777 (24 hours/day, 7 days/week)

Hungary: +36-80-201-199 (24 hours/day, 7 days/week)

Iceland: 543 2222 (24 hours/day, 7 days/week)

Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic

Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371

67042473. (24 hours.)

Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Lithuania: +370 (85) 2362052

Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)

Malta: +356 2395 2000

The Netherlands: NVIC: +31 (0)88 755 8000

Norway: 22 59 13 00 (24 hours/day, 7 days/week)

Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Portugal: CIAV phone number: +351 800 250 250

Romania: +40213183606

Slovakia: +421 2 5477 4166

Slovenia: Phone number: 112

Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24 hours/day, 7 days/week)

Sweden: 112 – ask for Poisons Information

Responsible Department : Product Safety and Toxicology Group
 E-mail address : SDS@CPChem.com
 Website : www.CPChem.com

SECTION 2: Hazards identification**2.1****Classification of the substance or mixture
REGULATION (EC) No 1272/2008**

Flammable gases, Category 1A

H220:

Extremely flammable gas.

Gases under pressure, Liquefied gas

H280:

Contains gas under pressure; may explode if heated.

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2.2**Labeling (REGULATION (EC) No 1272/2008)**

Hazard pictograms



Signal Word

: Danger

Hazard Statements

: H220
H280Extremely flammable gas.
Contains gas under pressure; may explode if heated.

Precautionary Statements

: **Prevention:**
P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response:

P377

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

P381

In case of leakage, eliminate all ignition sources.

Storage:

P410 + P403

Protect from sunlight. Store in a well-ventilated place.

SECTION 3: Composition/information on ingredients**3.1 - 3.2****Substance or Mixture**

Synonyms : Propylene

Molecular formula : C₃H₆**Hazardous ingredients**

| Chemical name | CAS-No. EC-No. Index No. | Classification (REGULATION (EC) No 1272/2008) | Concentration [wt%] |
|------------------|---|--|------------------------|
| Propylene | 115-07-1 204-062-1 601-011-00-9 | Flam. Gas 1; H220 Press. Gas Liquefied gas; H280 | 99 |
| Propane | 74-98-6 200-827-9 601-003-00-5 | Flam. Gas 1; H220 Press. Gas Liquefied gas; H280 | 1 |

For the full text of the H-Statements mentioned in this Section, see Section 16.

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SECTION 4: First aid measures**4.1****Description of first-aid measures**

- General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.
- If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
- In case of eye contact : Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

SECTION 5: Firefighting measures

Flash point : -108°C (-162°F)
Method: closed cup

Autoignition temperature : 460°C (860°F)

5.1**Extinguishing media**

- Suitable extinguishing media : Alcohol-resistant foam. Carbon dioxide (CO₂). Dry chemical.
- Unsuitable extinguishing media : High volume water jet.

5.3**Advice for firefighters**

- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.
- Further information : For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
- Fire and explosion protection : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
- Hazardous decomposition products : Carbon oxides.

SECTION 6: Accidental release measures**6.1****Personal precautions, protective equipment and emergency procedures**

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Personal precautions : Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.2**Environmental precautions**

Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

6.4**Reference to other sections**

Reference to other sections : For personal protection see section 8. For disposal considerations see section 13.

A quantitative risk assessment is not required for the environment.

A quantitative risk assessment is not required for human health.

SECTION 7: Handling and storage**7.1****Precautions for safe handling
Handling**

Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

7.2**Conditions for safe storage, including any incompatibilities****Storage**

Requirements for storage areas and containers : Prevent unauthorized access. No smoking. Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8: Exposure controls/personal protection**8.1****Control parameters
Ingredients with workplace control parameters****SI**

| Sestavine | Osnova | Vrednost | Parametri nadzora | Pripomba |
|-----------|--------|----------|------------------------------------|----------|
| Propane | SI OEL | MV | 1.000 ppm, 1.800 mg/m ³ | |
| | SI OEL | KTV | 4.000 ppm, 7.200 mg/m ³ | |

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SE

| Beståndsdelar | Grundval | Värde | Kontrollparametrar | Anmärkning |
|---------------|----------|-------|--------------------|------------|
| Propylene | SE AFS | NGV | 500 ppm, 900 mg/m3 | |

RO

| Componente | Sursă | Valoare | Parametri de control | Notă |
|------------|--------|---------|------------------------|------|
| Propane | RO OEL | TWA | 778 ppm, 1.400 mg/m3 | |
| | RO OEL | STEL | 1.000 ppm, 1.800 mg/m3 | |

PT

| Componentes | Bases | Valor | Parâmetros de controle | Nota |
|-------------|--------|--------|------------------------|------|
| Propylene | PT OEL | VLE-MP | 500 ppm, | A4, |

A4 Agente não classificável como carcinogénico no Homem.

PL

| Składniki | Podstawa | Wartość | Parametry dotyczące kontroli | Uwaga |
|-----------|----------|---------|------------------------------|-------|
| Propylene | PL NDS | NDS | 2.000 mg/m3 | |
| | PL NDS | NDSch | 8.600 mg/m3 | |
| Propane | PL NDS | NDS | 1.800 mg/m3 | |

NO

| Komponenter | Grunnlag | Verdi | Kontrollparametrer | Nota |
|-------------|---------------------|-------|--------------------|------|
| Propane | FOR-2011-12-06-1358 | GV | 500 ppm, 900 mg/m3 | |

MK

| Съставки | Основа | Стойност | Параметри на контрол | Бележка |
|----------|--------|----------|------------------------|---------|
| Propane | MK OEL | MV | 1.000 ppm, 1.800 mg/m3 | |

LV

| Sastāvdaļas | Bāze | Vērtība | Pārvaldības parametri | Piezīme |
|-------------|--------|---------------|------------------------|---------|
| Propylene | LV OEL | AER 8 st | 100 mg/m3 | |
| Propane | LV OEL | AER 8 st | 100 mg/m3 | |
| | LV OEL | AER īslaicīgā | 300 mg/m3 | |
| | LV OEL | AER 8 st | 1.000 ppm, 1.800 mg/m3 | |

LT

| Komponentai | Šaltinis | Vertė | Kontrolės parametrai | Pastaba |
|-------------|----------|-------|----------------------|---------|
| Propylene | LT OEL | IPRD | 500 ppm, 900 mg/m3 | |

IS

| Komponenter | Grunnlag | Verdi | Kontrollparametrer | Nota |
|-------------|----------|-------|------------------------|------|
| Propane | IS OEL | TWA | 1.000 ppm, 1.800 mg/m3 | |

IE

| Components | Basis | Value | Control parameters | Note |
|------------|--------|--------------------|--------------------|--------|
| Propylene | IE OEL | OELV - 8 hrs (TWA) | 500 ppm, | Asphx, |

Asphx Gaseous chemical substances which may not produce significant physiological effects in the exposed employee, but when present in high concentrations will act as simple asphyxiants

HR

| Sastojci | Temelj | Vrijednost | Nadzorni parametri | Bilješka |
|----------|--------|------------|--------------------|----------|
| Propane | HR OEL | GVI | 100 ppm, 400 mg/m3 | |

GR

| Συστατικά | Βάση | Τιμή | Παράμετροι ελέγχου | Σημείωση |
|-----------|--------|------|------------------------|----------|
| Propane | GR OEL | TWA | 1.000 ppm, 1.800 mg/m3 | |

FI

| Aineosat | Peruste | Arvo | Valvontaa koskevat muuttujat | Huomautus |
|-----------|---------|------------------|------------------------------|-----------|
| Propylene | FI OEL | HTP-arvot 8h | 500 ppm, | Liite 4, |
| Propane | FI OEL | HTP-arvot 8h | 800 ppm, 1.500 mg/m3 | Liite 4, |
| | FI OEL | HTP-arvot 15 min | 1.100 ppm, 2.000 mg/m3 | Liite 4, |

Liite 4 Happea syrjäyttämällä tukehduttavat kaasut

ES

| Componentes | Base | Valor | Parámetros de control | Nota |
|-------------|--------|--------|-----------------------|------|
| Propylene | ES VLA | VLA-ED | 500 ppm, | |
| Propane | ES VLA | VLA-ED | 1.000 ppm, | |

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EE

| Komponendid, osad | Alused | Väärtus | Kontrolliparameetrid | Märkused |
|-------------------|--------|----------|------------------------|----------|
| Propane | EE OEL | Piirnorm | 1.000 ppm, 1.800 mg/m3 | |

DK

| Komponenter | Basis | Værdi | Kontrolparametre | Note |
|-------------|--------|-------|------------------------|------|
| Propylene | DK OEL | GV | 100 ppm, 172 mg/m3 | |
| Propane | DK OEL | GV | 1.000 ppm, 1.800 mg/m3 | |

DE

| Inhaltsstoffe | Grundlage | Wert | Zu überwachende Parameter | Bemerkung |
|---------------|-------------|------|---------------------------|-----------|
| Propane | DE TRGS 900 | AGW | 1.000 ppm, 1.800 mg/m3 | |

CH

| Inhaltsstoffe | Grundlage | Wert | Zu überwachende Parameter | Bemerkung |
|---------------|-----------|----------|---------------------------|-----------|
| Propylene | CH SUVA | MAK-Wert | 10.000 ppm, 17.500 mg/m3 | |
| Propane | CH SUVA | MAK-Wert | 1.000 ppm, 1.800 mg/m3 | NIOSH, |
| | CH SUVA | KZGW | 4.000 ppm, 7.200 mg/m3 | NIOSH, |

NIOSH National Institute for Occupational Safety and Health

BG

| Съставки | Основа | Стойност | Параметри на контрол | Бележка |
|----------|--------|----------|----------------------|---------|
| Propane | BG OEL | TWA | 1.800 mg/m3 | |

BE

| Bestanddelen | Basis | Waarde | Controleparameters | Opmerking |
|--------------|--------|----------|--------------------|-----------|
| Propylene | BE OEL | TGG 8 hr | 500 ppm, 875 mg/m3 | |
| Propane | BE OEL | TGG 8 hr | 1.000 ppm, | |
| | BE OEL | TGG 8 hr | 1.000 ppm, | gas |

AT

| Inhaltsstoffe | Grundlage | Wert | Zu überwachende Parameter | Bemerkung |
|---------------|-----------|---------|---------------------------|-----------|
| Propane | AT OEL | MAK-TMW | 1.000 ppm, 1.800 mg/m3 | |
| | AT OEL | MAK-KZW | 2.000 ppm, 3.600 mg/m3 | |

8.2**Exposure controls
Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

Respiratory protection : If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator that provides protection may be appropriate, such as: A positive pressure, air-supplying respirator may be appropriate if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection : The suitability for a specific workplace should be discussed

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with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

- Eye protection : Eye wash bottle with pure water. Safety glasses.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate:. Flame retardant antistatic protective clothing. Workers should wear antistatic footwear.
- Hygiene measures : Wash hands before breaks and at the end of workday.

A quantitative risk assessment is not required for the environment.
A quantitative risk assessment is not required for human health.

SECTION 9: Physical and chemical properties**9.1****Information on basic physical and chemical properties****Appearance**

- Form : compressed liquefied gas
- Physical state : Gaseous
- Color : Colorless
- Odor : Sweet

Safety data

- Flash point : -108°C (-162°F)
Method: closed cup
- Lower explosion limit : 2,4 %(V)
- Upper explosion limit : 10,1 %(V)
- Oxidizing properties : No
- Autoignition temperature : 460°C (860°F)
- Molecular formula : C₃H₆
- Molecular weight : 42,09 g/mol
- pH : No data available
- Freezing point : -185°C (-301°F)
- Boiling point/boiling range : -47,7°C (-53,9°F)
- Vapor pressure : 238,50 PSI
at 37,8°C (100,0°F)
Method: Reid

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| | |
|--|--|
| Relative density | : 0,52 at 15,6 °C (60,1 °F) |
| Water solubility | : Soluble in hydrocarbon solvents; partially soluble in water. |
| Partition coefficient: n-octanol/water | : No data available |
| Viscosity, kinematic | : No data available |
| Relative vapor density | : 1,5 (Air = 1.0) |
| Evaporation rate | : No data available |

SECTION 10: Stability and reactivity**10.1**

Reactivity : Stable under recommended storage conditions.

10.2

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3**Possibility of hazardous reactions**

Hazardous reactions : Hazardous reactions: Hazardous polymerization does not occur.

Hazardous reactions: Vapors may form explosive mixture with air.

10.4

Conditions to avoid : Heat, flames and sparks.

10.5

Materials to avoid : May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

10.6

Hazardous decomposition products : Carbon oxides

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information**11.1****Information on toxicological effects**

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Acute oral toxicity : Negligible or unlikely exposure pathways

Acute inhalation toxicity

Propylene : LC50: > 86 mg/l
Exposure time: 4 h
Species: Rat
Test atmosphere: gas
Test substance: yes

Propane LC50: > 800000 ppm
Exposure time: 15 min
Species: Rat
Test atmosphere: gas

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Acute dermal toxicity : Negligible or unlikely exposure pathways

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Skin irritation : Contact with liquid or refrigerated gas can cause cold burns and frostbite.

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Eye irritation : Contact with liquid or refrigerated gas can cause cold burns and frostbite.

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Sensitization : This information is not available.

Repeated dose toxicity

Propylene : Species: Rat, Male and female
Sex: Male and female
Application Route: Inhalation
Dose: 625,1250,2500,5000, 10000 ppm
Exposure time: 14 wk
Number of exposures: 6 Hr/d, 5 d/wk
NOEL: 10000 ppm

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Species: Mouse, Male and female
 Sex: Male and female
 Application Route: Inhalation
 Dose: 625,1250,2500,5000, 10000 ppm
 Exposure time: 14 wk
 Number of exposures: 6 Hr/d, 5 d/wk
 NOEL: 10000 ppm

Species: Rat, Male and female
 Sex: Male and female
 Application Route: Inhalation
 Dose: 0, 5000, 10000 ppm
 Exposure time: 103 wk
 Number of exposures: 6 Hr/d, 5 d/wk
 Lowest observable effect level: 5000 ppm
 Not classified due to data which are conclusive although insufficient for classification.

Species: Mouse, Male and female
 Sex: Male and female
 Application Route: Inhalation
 Dose: 0, 5000, 10000 ppm
 Exposure time: 103 wk
 Number of exposures: 6 Hr/d, 5 d/wk
 Lowest observable effect level: 5000 ppm
 Not classified due to data which are conclusive although insufficient for classification.

Propane

Species: Monkey
 Application Route: Inhalation
 Dose: 0, 750 ppm
 Exposure time: 90 day
 Number of exposures: daily
 NOEL: > 750 ppm

Genotoxicity in vitro**Propylene**

: Test Type: Ames test
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 471
 Result: negative

Test Type: Mammalian cell gene mutation assay
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 476
 Result: Ambiguous

Propane

Test Type: Ames test
 Result: negative

Genotoxicity in vivo**Propylene**

: Test Type: Micronucleus test
 Species: Rat
 Route of Application: inhalation (gas)
 Method: OECD Test Guideline 474
 Result: negative

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Carcinogenicity

Propylene : Species: Rat
Dose: 0, 5000, 10000 ppm
Exposure time: 103 wks
Number of exposures: 6 h/d, 5 d/wk
Remarks: No evidence of carcinogenicity

Species: Mouse
Dose: 0, 5000, 10000 ppm
Exposure time: 103 wks
Number of exposures: 6 h/d, 5 d/wk
Remarks: No evidence of carcinogenicity

Reproductive toxicity

Propylene : Species: Rat
Sex: male and female
Application Route: Inhalation
Dose: 0, 5000, 10000 ppm
Number of exposures: 6 hrs/d, 5 d/wk
Test period: 103 wks
NOEL Parent: 10000 ppm

Species: Mouse
Sex: male and female
Application Route: Inhalation
Dose: 0, 5000, 10000 ppm
Number of exposures: 6 hrs/d, 5 d/wk
Test period: 103 wks
NOEL Parent: 10000 ppm

Propane : Species: Rat
Sex: male and female
Application Route: Inhalation
Dose: 0, 1200, 4000, 12000 ppm
Exposure time: 6 weeks
Number of exposures: 6 hours/day, 7 days/week
Test period: 6 weeks
Test substance: yes
Method: OECD Guideline 422
NOEL Parent: 12000 ppm
NOEL F1: 12000 ppm

Developmental Toxicity

Propylene : Species: Rat
Application Route: Inhalation
Dose: 0, 200, 1000, 10000 ppm
Number of exposures: 6 hrs/d
Test period: 14 d
Method: OECD Guideline 414
NOEL Teratogenicity: 10000 ppm
NOEL Maternal: 10000 pmm

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Aspiration toxicity : No aspiration toxicity classification.

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CMR effects

Propylene : Carcinogenicity: Animal testing did not show any carcinogenic effects.
 Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
 Teratogenicity: Animal testing did not show any effects on fetal development.
 Reproductive toxicity: Animal testing did not show any effects on fertility.

Propane Carcinogenicity: Weight of evidence does not support classification as a carcinogen
 Mutagenicity: In vitro tests did not show mutagenic effects
 Teratogenicity: No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.
 Reproductive toxicity: Weight of evidence does not support classification for reproductive toxicity

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Further information : This product contains NORMS based RADON:
 Carcinogenicity: IARC classification / Group 1 carcinogen
 Other: The amount of radon in the gas itself is not hazardous, but since radon rapidly decays ($t_{1/2}=3.82$ days) to form other radioactive elements including lead 210, polonium 210, and bismuth 210, equipments may contain radioactivity. The radon decay products are solids and therefore may attach to dust particles or form films in equipment. Inhalation, ingestions, or skin contact with radon decay products can lead to the deposit of radioactive material in the respiratory tract, bone, or blood forming organs, intestinal tract, and kidney, which may lead to certain cancers. Risks can be minimized by following good industrial and personal hygiene practices noted in section 7.

SECTION 12: Ecological information**12.1****Toxicity****Ecotoxicity effects**

Toxicity to fish : No data available

12.2**Persistence and degradability**

Biodegradability : This material is not expected to be readily biodegradable.

12.3**Bioaccumulative potential**

Elimination information (persistence and degradability)

Bioaccumulation : This material is not expected to bioaccumulate.

12.4**Mobility in soil**

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Mobility : The product evaporates readily.

12.5**Results of PBT and vPvB assessment**

Results of PBT assessment : This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT)., This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6**Other adverse effects**

Additional ecological information : No data available

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : No data available

Long-term (chronic) aquatic hazard : No data available

SECTION 13: Disposal considerations**13.1****Waste treatment methods**

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

A quantitative risk assessment is not required for the environment.
A quantitative risk assessment is not required for human health.

SECTION 14: Transport information**14.1 - 14.7****Transport information**

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping

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description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

UN1075, PETROLEUM GASES, LIQUEFIED, 2.1
NON- ODORIZED

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN1075, PETROLEUM GASES, LIQUEFIED, 2.1, (-108 °C c.c.)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN1075, 2.1: NOT PERMITTED FOR TRANSPORT

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

UN1075, PETROLEUM GASES, LIQUEFIED, 2.1, (B/D)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

23,UN1075,PETROLEUM GASES, LIQUEFIED, 2.1

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)

UN1075, PETROLEUM GASES, LIQUEFIED, 2.1

Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information**15.1****Safety, health and environmental regulations/legislation specific for the substance or mixture
National legislation**

Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Water hazard class : nwg not water endangering
(Germany) VwVwS

15.2**Chemical Safety Assessment**

Components : propene 204-062-1

Major Accident Hazard : 96/82/EC Update: 2003
Legislation Extremely flammable
8
Quantity 1: 10 t

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Quantity 2: 50 t

: ZEU_SEVES3 Update:
 FLAMMABLE GASES
 P2
 Quantity 1: 10 t
 Quantity 2: 50 t

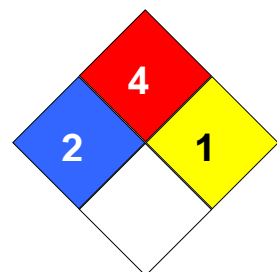
: ZEU_SEVES3 Update:
 FLAMMABLE GASES
 P2
 Quantity 1: 10 t
 Quantity 2: 50 t

Notification status

| | | |
|-------------------------------------|---|--|
| Europe REACH | : | This product is in full compliance according to REACH regulation 1907/2006/EC. |
| Europe REACH | : | On the inventory, or in compliance with the inventory |
| Switzerland CH INV | : | On the inventory, or in compliance with the inventory |
| United States of America (USA) TSCA | : | On or in compliance with the active portion of the TSCA inventory |
| Canada DSL | : | All components of this product are on the Canadian DSL |
| Other AIIIC | : | On the inventory, or in compliance with the inventory |
| New Zealand NZIoC | : | On the inventory, or in compliance with the inventory |
| Japan ENCS | : | On the inventory, or in compliance with the inventory |
| Korea KECI | : | A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance or the exported amount does not exceed the minimum threshold quantity of the non-registered substance(s). |
| Philippines PICCS | : | On the inventory, or in compliance with the inventory |
| Taiwan TCSI | : | On the inventory, or in compliance with the inventory |
| China IECSC | : | On the inventory, or in compliance with the inventory |

SECTION 16: Other information

NFPA Classification : Health Hazard: 2
 Fire Hazard: 4
 Reactivity Hazard: 1

**Further information**

Legacy SDS Number : 5349

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

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The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

| Key or legend to abbreviations and acronyms used in the safety data sheet | | | |
|---|--|-------|--|
| ACGIH | American Conference of Government Industrial Hygienists | LD50 | Lethal Dose 50% |
| AICS | Australia, Inventory of Chemical Substances | LOAEL | Lowest Observed Adverse Effect Level |
| DSL | Canada, Domestic Substances List | NFPA | National Fire Protection Agency |
| NDSL | Canada, Non-Domestic Substances List | NIOSH | National Institute for Occupational Safety & Health |
| CNS | Central Nervous System | NTP | National Toxicology Program |
| CAS | Chemical Abstract Service | NZIoC | New Zealand Inventory of Chemicals |
| EC50 | Effective Concentration | NOAEL | No Observable Adverse Effect Level |
| EC50 | Effective Concentration 50% | NOEC | No Observed Effect Concentration |
| EGEST | EOSCA Generic Exposure Scenario Tool | OSHA | Occupational Safety & Health Administration |
| EOSCA | European Oilfield Specialty Chemicals Association | PEL | Permissible Exposure Limit |
| EINECS | European Inventory of Existing Chemical Substances | PICCS | Philippines Inventory of Commercial Chemical Substances |
| MAK | Germany Maximum Concentration Values | PRNT | Presumed Not Toxic |
| GHS | Globally Harmonized System | RCRA | Resource Conservation Recovery Act |
| >= | Greater Than or Equal To | STEL | Short-term Exposure Limit |
| IC50 | Inhibition Concentration 50% | SARA | Superfund Amendments and Reauthorization Act. |
| IARC | International Agency for Research on Cancer | TLV | Threshold Limit Value |
| IECSC | Inventory of Existing Chemical Substances in China | TWA | Time Weighted Average |
| ENCS | Japan, Inventory of Existing and New Chemical Substances | TSCA | Toxic Substance Control Act |
| KECI | Korea, Existing Chemical Inventory | UVCB | Unknown or Variable Composition, Complex Reaction Products, and Biological Materials |
| <= | Less Than or Equal To | WHMIS | Workplace Hazardous Materials Information System |
| LC50 | Lethal Concentration 50% | | |

Full text of H-Statements referred to under sections 2 and 3.

H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.