# SAFETY DATA SHEET

ExxonMobil

PROPYLENE

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

### 1.1 Product identifier

**Product name** : PROPYLENE

**EC number** : 204-062-1

**REACH Registration number**

| Registration number |
|---|
| 01-2119447103-50<br>01-2119447103-50<br>01-2119447103-50<br>01-2119447103-50<br>01-2119447103-50<br>01-2119447103-50 |

**CAS number** : 115-07-1

**Product description** : Olefin

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

**Intended Use** : Refinery process stream

| Identified uses |
|---|
| Distribution of substance<br>Formulation and (re)packing of substances and mixtures<br>Functional fluids - Industrial<br>Manufacture of substance<br>Use as a fuel - Consumer<br>Use as a fuel - Industrial<br>Use as a fuel - Professional<br>Functional fluids - Professional<br>Functional fluids - Consumer<br>Use in polymer production - Industrial |

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

**Supplier** : ESSO Deutschland GmbH
Caffamacherreihe 5
D-20355 Hamburg
Deutschland

**Supplier General Contact** : +49 40 63 93 0

**e-mail address of person responsible for this SDS** : SDS-DS@exxonmobil.com

**SDS Internet Address** : www.sds.exxonmobil.com

### 1.4 Emergency telephone number

**National advisory body/ Poison Centre** : 030-30686 700 (Giftnotruf Berlin)

**24 Hour Emergency Telephone** : 0800 1817059 (Toll Free) / +44 20 3885 0382 / +1-703-527-3887 (CHEMTREC)

# SECTION 2: Hazards identification

## 2.1 Classification of the substance or mixture

**Product definition** : UVCB

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

Flam. Gas 1A, H220
Press. Gas (Comp.), H280

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

## 2.2 Label elements

**Hazard pictograms** :

**Signal word** : Danger

**Hazard statements** : H220 - Extremely flammable gas.
H280 - 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.

**Disposal** : Not applicable.

**Contains** : PROPYLENE

**Supplemental label elements** : Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : 3

## 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** :

| PBT | P | B | T | vPvB | vP | vB |
|---|---|---|---|---|---|---|
| No | N/A | N/A | No | N/A | N/A | N/A |

**Other hazards which do not result in classification** : None known.

**Nota** : This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

## SECTION 3: Composition/information on ingredients

**3.1 Substances** : UVCB

| Product/ingredient name | Identifiers | % by weight | Classification | Specific Conc. Limits, M-factors and ATEs | Type |
|---|---|---|---|---|---|
| PROPYLENE | REACH #: 01-2119447103-50<br>EC: 204-062-1<br>CAS: 115-07-1 | 100 | Flam. Gas 1A, H220<br>Press. Gas (Comp.), H280 | - | [*] |
| propane | REACH #: 01-2119486944-21<br>EC: 200-827-9<br>CAS: 74-98-6 | ≤5 | Flam. Gas 1A, H220<br>Press. Gas (Liq.), H280<br><br>**See Section 16 for the full text of the H statements declared above.** | - | [1] |

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[*] Substance

[1] Constituent

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it.

**Ingestion** : As this product is a gas, refer to the inhalation section.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

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

**Over-exposure signs/symptoms**

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : Local necrosis as evidenced by delayed onset of pain and tissue damage a few hours after injection.

**Ingestion** : No specific data.

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

## SECTION 4: First aid measures

**Notes to physician** : This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

**Specific treatments** : No specific treatment.

**See toxicological information (Section 11)**

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use water fog, dry chemical or carbon dioxide (CO2) to extinguish flames.

**Unsuitable extinguishing media** : Do not use water jet.

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

**Specific hazards arising from the chemical** : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous combustion products** : Oxides of carbon

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Assure an extended cooling down period to prevent re-ignition. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## SECTION 6: Accidental release measures

**NOTIFICATION PROCEDURES**

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate personal protective equipment. Accidental releases pose a serious fire or explosion hazard.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

## SECTION 6: Accidental release measures

**6.2 Environmental precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

### 6.3 Methods and material for containment and cleaning up

**Small spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

**Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

**6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Static Accumulator** : This material is a static accumulator.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

**Seveso Directive - Reporting thresholds**

**Danger criteria**

| Category | Notification and MAPP threshold | Safety report threshold |
|---|---|---|
| P2 | 10 tonne | 50 tonne |

### 7.3 Specific end use(s)

**Recommendations** : Not available.

## SECTION 7: Handling and storage

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 8.1 Control parameters

#### Occupational exposure limits

| Product/ingredient name | Exposure limit values |
|---|---|
| propene<br><br>propane | **ACGIH TLV (United States, 1/2024)**<br>TWA 8 hours: 500 ppm.<br>**DFG MAC-values list (Germany, 7/2023)**<br>TWA 8 hours: 1000 ppm.<br>PEAK 15 minutes: 4000 ppm 4 times per shift [Interval: 1 hour].<br>TWA 8 hours: 1800 mg/m³.<br>PEAK 15 minutes: 7200 mg/m³ 4 times per shift [Interval: 1 hour].<br>**TRGS 900 OEL (Germany, 1/2024)**<br>TWA 8 hours: 1800 mg/m³.<br>PEAK 15 minutes: 7200 mg/m³.<br>TWA 8 hours: 1000 ppm.<br>PEAK 15 minutes: 4000 ppm.<br>**ACGIH TLV (United States, 1/2024)** Oxygen depletion [asphyxiant], Explosive potential. |

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

No DNELs/DMELs available.

#### PNECs

No PNECs available

### 8.2 Exposure controls

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## SECTION 8: Exposure controls/personal protection

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Face shield.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

**Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

**Appearance**

**Physical state** : Gas. [Compressed or Liquified]

**Colour** : Colourless

**Odour** : Odourless

**Odour threshold** : Not applicable.

**pH** : Not applicable.

**Melting point/freezing point** : -185°C (-301°F)

**Boiling point or initial boiling point and boiling range** : -48°C (-54.4°F)

**Flash point** : Closed cup: -108°C (-162.4°F) [ASTM D-56]

**Evaporation rate** : Not applicable.

**Flammability** : Flammable gases - Category 1

# SECTION 9: Physical and chemical properties

| | | |
|---|---|---|
| **Lower and upper explosion limit** | : | Lower: 2%<br>Upper: 11% |
| **Vapour pressure** | : | Not available. |
| **Relative vapour density** | : | 1.4 [Air = 1] [Calculated] |
| **Relative density** | : | Not applicable. |
| **Solubility in water** | : | Negligible |
| **Partition coefficient n-octanol/ water (log Pow)** | : | 1.77<br>Calculated value |
| **Auto-ignition temperature** | : | 455°C (851°F) |
| **Decomposition temperature** | : | Not available. |
| **Viscosity** | : | Not applicable. |

**Particle characteristics**

**Median particle size** : Not applicable.

### 9.2 Other information

No data available

# SECTION 10: Stability and reactivity

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**10.5 Incompatible materials** : Strong oxidisers

**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 hazard classes as defined in Regulation (EC) No 1272/2008

**Acute toxicity**

**Conclusion/Summary**

**Inhalation** : Minimally Toxic. No end point data for material.

**Dermal** : Minimally Toxic. No end point data for material.

**Oral** : Minimally Toxic. No end point data for material.

**Acute toxicity estimates**

N/A

**Irritation/Corrosion**

**Conclusion/Summary**

**Skin** : Negligible irritation to skin at ambient temperatures. No end point data for material.

**Eyes** : May cause mild, short-lasting discomfort to eyes. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 405

**Respiratory** : Negligible hazard at ambient/normal handling temperatures. Data available. Based on test data for the material.

**Respiratory or skin sensitization**

## SECTION 11: Toxicological information

**Conclusion/Summary**

**Skin** : Not expected to be a skin sensitizer. No end point data for material.

**Respiratory** : Not expected to be a respiratory sensitizer. No end point data for material.

**Mutagenicity**

**Conclusion/Summary** : Not expected to be a germ cell mutagen. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 471 474 476

**Carcinogenicity**

**Conclusion/Summary** : Not expected to cause cancer. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 453

**Reproductive toxicity**

**Conclusion/Summary** : Not expected to be a reproductive toxicant. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 414 416 421 422

**Specific target organ toxicity (single exposure)**

**Conclusion/Summary** : Not expected to cause organ damage from a single exposure. No end point data for material.

**Specific target organ toxicity (repeated exposure)**

| Product/ingredient name | Category | Target organs |
|---|---|---|
| PROPYLENE | Not applicable. | - |

**Conclusion/Summary** : Not expected to cause organ damage from prolonged or repeated exposure. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 413 453

**Aspiration hazard**

**Conclusion/Summary** : Not expected to be an aspiration hazard. Based on physico-chemical properties of the material. Data available.

**Information on likely routes of exposure** : Not available.

### 11.2 Information on other hazards

#### 11.2.1 Endocrine disrupting properties

No known endocrine disrupting properties that affect human health

#### 11.2.2 Other information

**Product** : Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21 percent by volume. Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug.

# Section 12. Ecological information

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

### 12.1 Toxicity

**Conclusion/Summary**

**Acute toxicity** : Harmful to aquatic life.

**Chronic toxicity** : Not expected to demonstrate chronic toxicity to aquatic organisms

### 12.2 Persistence and degradability

**Photolysis** : 0.61 day(s) data for the material

**Hydrolysis** : Material -- Transformation due to hydrolysis not expected to be significant.

**Photolysis** : Material -- Transformation due to photolysis not expected to be significant.

**Atmospheric Oxidation** : Material -- Expected to degrade rapidly in air

### 12.3 Bioaccumulative potential

Not determined.

### 12.4 Mobility in soil

**Mobility** : Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

### 12.5 Results of PBT and vPvB assessment

| Product/ingredient name | PBT | P | B | T | vPvB | vP | vB |
|---|---|---|---|---|---|---|---|
| PROPYLENE | No | N/A | N/A | No | N/A | N/A | N/A |

### 12.6 Endocrine disrupting properties

No known endocrine disrupting properties that affect the environment

### 12.7 Other adverse effects

**Other adverse effects** : No known significant effects or critical hazards.

# SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

**Product**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

The European Waste Catalogue (EWC) code is specific to the waste generating process and waste constituents. Determine the EWC according to the criteria provided in the European Waste Catalogue and the hazardous waste list established by Commission Decision 2000/532/EC, as amended.

**Packaging**

## SECTION 13: Disposal considerations

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

## SECTION 14: Transport information

| | ADR/RID | ADN | IMDG | IATA |
|---|---|---|---|---|
| **14.1 UN number or ID number** | UN1077 | UN1077 | UN1077 | UN1077 |
| **14.2 UN proper shipping name** | PROPYLENE | PROPYLENE | PROPYLENE | Propylene |
| **14.3 Transport hazard class(es)** | 2 | 2 | 2.1 | 2.1 |
| **Label(s) / Mark(s)** |  |  |  |  |
| **14.4 Packing group** | - | - | - | - |
| **14.5 Environmental hazards** | No. | No. | No. | No. |

**Additional information**

**ADR/RID** : **Hazard identification number** 23
**Limited quantity** 0
**Special provisions** 662
**Tunnel code** (B/D)

**ADN** : **Special provisions** 662
N3

**IMDG** : **Emergency schedules** F-D, S-U
Flash point -108 °C C.C.

**IATA** : **Quantity limitation** Passenger and Cargo Aircraft: Forbidden. Packaging instructions: Forbidden. Cargo Aircraft Only: 150 kg. Packaging instructions: 200. Limited Quantities - Passenger Aircraft: Forbidden. Packaging instructions: Forbidden.
**Special provisions** A1

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Maritime transport in bulk according to IMO instruments** : Not applicable.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU Regulation (EC) No. 1907/2006 (REACH)

##### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : 3

#### Other EU regulations

**Explosive precursors** : Not applicable.

#### Seveso Directive

This product is controlled under the Seveso Directive.

##### Danger criteria

| Category |
|---|
| P2 |

#### National regulations

**Storage class (TRGS 510)** : 2A

#### Hazardous incident ordinance

This product is controlled under the Germany Hazardous Incident Ordinance.

##### Danger criteria

| Category | Reference number |
|---|---|
| P2 | 1.2.2 |

**Hazard class for water** : nwg

**Technical instruction on air quality control (TA Luft)**

| Number [Class] | Description | % |
|---|---|---|
| 5.2.5<br>5.2.5 [I] | Organic substances<br>Organic substances | 105<br>5 |

#### Inventory list

**Australia inventory (AIIC)** : All components are listed or exempted.

**Canada inventory (DSL-NDSL)** : All components are listed or exempted.

**China inventory (IECSC)** : All components are listed or exempted.

**Japan inventory (CSCL)** : All components are listed or exempted.

**Japan inventory (Industrial Safety and Health Act)** : All components are listed or exempted.

**New Zealand Inventory of Chemicals (NZIoC)** : All components are listed or exempted.

**Philippines inventory (PICCS)** : All components are listed or exempted.

**Korea inventory (KECI)** : All components are listed or exempted.

**Taiwan Chemical Substances Inventory (TCSI)** : All components are listed or exempted.

**United States inventory (TSCA 8b)** : All components are active or exempted.

## SECTION 15: Regulatory information

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments are still required.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
SGG = Segregation Group
vPvB = Very Persistent and Very Bioaccumulative

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

| Classification | Justification |
|---|---|
| Flam. Gas 1A, H220<br>Press. Gas (Comp.), H280 | Expert judgment<br>Expert judgment |

**Full text of abbreviated H statements**

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

**Full text of classifications [CLP/GHS]**

| | |
|---|---|
| Flam. Gas 1A | FLAMMABLE GASES - Category 1A |
| Press. Gas (Comp.) | GASES UNDER PRESSURE - Compressed gas |
| Press. Gas (Liq.) | GASES UNDER PRESSURE - Liquefied gas |

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## Annex to the extended Safety Data Sheet (eSDS)

**Industrial**

## Identification of the substance or mixture

| | | |
|---|---|---|
| **Product definition** | : | UVCB |
| **Code** | : | 1158231 |
| **Product name** | : | PD SUPPLY CHEMICAL GRADE PROPYLENE (EU) |

## Section 1 - Title

| | | |
|---|---|---|
| **Short title of the exposure scenario** | : | Distribution of substance |
| **List of use descriptors** | : | **Identified use name:** Distribution of substance<br>**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC15<br>**Sector of end use:** SU03, SU08, SU09<br>**Subsequent service life relevant for that use:** No.<br>**Environmental Release Category:** ERC01, ERC02, ERC03, ERC04, ERC05, ERC06a, ERC06b, ERC06c, ERC06d, ERC07 |
| **Environmental contributing scenarios** | : | **General exposures -** ERC01, ERC02, ERC03, ERC04, ERC05, ERC06a, ERC06b, ERC06c, ERC06d, ERC07 |
| **Health Contributing scenarios** | : | **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC15 |
| **Processes and activities covered by the exposure scenario** | : | Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities. |

## Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

| | | |
|---|---|---|
| **Product characteristics** | : | Not applicable. |
| **Amounts used** | : | Not applicable. |
| **Frequency and duration of use** | : | Not applicable. |
| **Environment factors not influenced by risk management** | : | Not applicable. |
| **Other operational conditions of use affecting environmental exposure** | : | Not applicable. |
| **Technical conditions and measures at process level (source) to prevent release** | : | Not applicable. |
| **Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** | : | Not applicable. |
| **Organisational measures to prevent/limit release from site** | : | Not applicable. |
| **Conditions and measures related to municipal sewage treatment plant** | : | Not applicable. |

| | | |
|---|---|---|
| **Conditions and measures related to external treatment of waste for disposal** | : | Not applicable. |
| **Conditions and measures related to external recovery of waste** | : | Not applicable. |

**Contributing scenario controlling worker exposure for 2: General measures applicable to all activities**

**General measures (flammability) - Extremely flammable gas.**

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Keep away from sources of ignition - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards/EU regulations/national regulations. Review SDS for additional advice..

| | | |
|---|---|---|
| **Product characteristics** | : | Liquified gas |
| **Concentration of substance in mixture or article** | : | Covers percentage substance in the product up to 100 %. |
| **Frequency and duration of use/exposure** | : | Covers daily exposures up to 8 hours (unless stated differently) |

**Conditions and measures related to personal protection, hygiene and health evaluation**

| | | |
|---|---|---|
| **Advice on general occupational hygiene** | : | Assumes a good basic standard of occupational hygiene is implemented |

## Section 3 - Exposure estimation and reference to its source

| | | |
|---|---|---|
| **Website:** | : | Not applicable. |

**Exposure estimation and reference to its source - Environment: 1: General exposures**

| | | |
|---|---|---|
| **Exposure assessment (environment):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities**

| | | |
|---|---|---|
| **Exposure assessment (human):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

## Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

| | | |
|---|---|---|
| **Environment** | : | Not applicable. |
| **Health** | : | Available hazard data do not support the need for a DNEL to be established for other health effects.<br>Risk management measures are based on qualitative risk characterisation. |

## Additional good practice advice beyond the REACH CSA

| | | |
|---|---|---|
| **Environment** | : | Not available. |
| **Health** | : | Not available. |

## Annex to the extended Safety Data Sheet (eSDS)

**Industrial**

## Identification of the substance or mixture

| | | |
|---|---|---|
| **Product definition** | : | UVCB |
| **Code** | : | 1158231 |
| **Product name** | : | PD SUPPLY CHEMICAL GRADE PROPYLENE (EU) |

## Section 1 - Title

| | | |
|---|---|---|
| **Short title of the exposure scenario** | : | Formulation and (re)packing of substances and mixtures |
| **List of use descriptors** | : | **Identified use name:** Formulation and (re)packing of substances and mixtures<br>**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15<br>**Sector of end use:** SU03, SU10<br>**Subsequent service life relevant for that use:** No.<br>**Environmental Release Category:** ERC02 |
| **Environmental contributing scenarios** | : | **General exposures -** ERC02 |
| **Health Contributing scenarios** | : | **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15 |
| **Processes and activities covered by the exposure scenario** | : | Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities. |

## Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

| | | |
|---|---|---|
| **Product characteristics** | : | Not applicable. |
| **Amounts used** | : | Not applicable. |
| **Frequency and duration of use** | : | Not applicable. |
| **Environment factors not influenced by risk management** | : | Not applicable. |
| **Other operational conditions of use affecting environmental exposure** | : | Not applicable. |
| **Technical conditions and measures at process level (source) to prevent release** | : | Not applicable. |
| **Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** | : | Not applicable. |
| **Organisational measures to prevent/limit release from site** | : | Not applicable. |
| **Conditions and measures related to municipal sewage treatment plant** | : | Not applicable. |

| | | |
|---|---|---|
| **Conditions and measures related to external treatment of waste for disposal** | : | Not applicable. |
| **Conditions and measures related to external recovery of waste** | : | Not applicable. |

**Contributing scenario controlling worker exposure for 2: General measures applicable to all activities**

**General measures (flammability) - Extremely flammable gas.**
Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.
Use in contained systems. Keep away from sources of ignition - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards/EU regulations/national regulations. Review SDS for additional advice..

| | | |
|---|---|---|
| **Product characteristics** | : | Liquified gas |
| **Concentration of substance in mixture or article** | : | Covers percentage substance in the product up to 100 %. |
| **Frequency and duration of use/exposure** | : | Covers daily exposures up to 8 hours (unless stated differently) |

**Conditions and measures related to personal protection, hygiene and health evaluation**

| | | |
|---|---|---|
| **Advice on general occupational hygiene** | : | Assumes a good basic standard of occupational hygiene is implemented |

## Section 3 - Exposure estimation and reference to its source

| | | |
|---|---|---|
| **Website:** | : | Not applicable. |

**Exposure estimation and reference to its source - Environment: 1: General exposures**

| | | |
|---|---|---|
| **Exposure assessment (environment):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities**

| | | |
|---|---|---|
| **Exposure assessment (human):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

## Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

| | | |
|---|---|---|
| **Environment** | : | Not applicable. |
| **Health** | : | Available hazard data do not support the need for a DNEL to be established for other health effects.<br>Risk management measures are based on qualitative risk characterisation. |

## Additional good practice advice beyond the REACH CSA

| | | |
|---|---|---|
| **Environment** | : | Not available. |
| **Health** | : | Not available. |

## Annex to the extended Safety Data Sheet (eSDS)

**Industrial**

## Identification of the substance or mixture

| | | |
|---|---|---|
| **Product definition** | : | UVCB |
| **Code** | : | 1158231 |
| **Product name** | : | PD SUPPLY CHEMICAL GRADE PROPYLENE (EU) |

## Section 1 - Title

| | | |
|---|---|---|
| **Short title of the exposure scenario** | : | Functional fluids - Industrial |
| **List of use descriptors** | : | **Identified use name:** Functional fluids - Industrial<br>**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09<br>**Sector of end use:** SU03<br>**Subsequent service life relevant for that use:** No.<br>**Environmental Release Category:** ERC07 |
| **Environmental contributing scenarios** | : | **General exposures -** ERC07 |
| **Health Contributing scenarios** | : | **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09 |
| **Processes and activities covered by the exposure scenario** | : | Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers. |

## Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

| | | |
|---|---|---|
| **Product characteristics** | : | Not applicable. |
| **Amounts used** | : | Not applicable. |
| **Frequency and duration of use** | : | Not applicable. |
| **Environment factors not influenced by risk management** | : | Not applicable. |
| **Other operational conditions of use affecting environmental exposure** | : | Not applicable. |
| **Technical conditions and measures at process level (source) to prevent release** | : | Not applicable. |
| **Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** | : | Not applicable. |
| **Organisational measures to prevent/limit release from site** | : | Not applicable. |
| **Conditions and measures related to municipal sewage treatment plant** | : | Not applicable. |

| | | |
|---|---|---|
| **Conditions and measures related to external treatment of waste for disposal** | : | Not applicable. |
| **Conditions and measures related to external recovery of waste** | : | Not applicable. |

**Contributing scenario controlling worker exposure for 2: General measures applicable to all activities**

**General measures (flammability) - Extremely flammable gas.**

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Keep away from sources of ignition - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards/EU regulations/national regulations. Review SDS for additional advice..

| | | |
|---|---|---|
| **Product characteristics** | : | Liquified gas |
| **Concentration of substance in mixture or article** | : | Covers percentage substance in the product up to 100 %. |
| **Frequency and duration of use/exposure** | : | Covers daily exposures up to 8 hours (unless stated differently) |

**Conditions and measures related to personal protection, hygiene and health evaluation**

| | | |
|---|---|---|
| **Advice on general occupational hygiene** | : | Assumes a good basic standard of occupational hygiene is implemented |

## Section 3 - Exposure estimation and reference to its source

| | | |
|---|---|---|
| **Website:** | : | Not applicable. |

**Exposure estimation and reference to its source - Environment: 1: General exposures**

| | | |
|---|---|---|
| **Exposure assessment (environment):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities**

| | | |
|---|---|---|
| **Exposure assessment (human):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

## Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

| | | |
|---|---|---|
| **Environment** | : | Not applicable. |
| **Health** | : | Available hazard data do not support the need for a DNEL to be established for other health effects.<br>Risk management measures are based on qualitative risk characterisation. |

## Additional good practice advice beyond the REACH CSA

| | | |
|---|---|---|
| **Environment** | : | Not available. |
| **Health** | : | Not available. |

## Annex to the extended Safety Data Sheet (eSDS)

**Industrial**

## Identification of the substance or mixture

| | | |
|---|---|---|
| **Product definition** | : | UVCB |
| **Code** | : | 1158231 |
| **Product name** | : | PD SUPPLY CHEMICAL GRADE PROPYLENE (EU) |

## Section 1 - Title

| | | |
|---|---|---|
| **Short title of the exposure scenario** | : | Manufacture of substance |
| **List of use descriptors** | : | **Identified use name:** Manufacture of substance<br>**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15<br>**Sector of end use:** SU03, SU08, SU09, SU10<br>**Subsequent service life relevant for that use:** No.<br>**Environmental Release Category:** ERC01, ERC04 |
| **Environmental contributing scenarios** | : | **General exposures -** ERC01, ERC04 |
| **Health Contributing scenarios** | : | **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15 |
| **Processes and activities covered by the exposure scenario** | : | Manufacture of the substance or use as an intermediate, process chemical or extracting agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (ncluding marine vessel/barge, road/rail car and bulk container). |

## Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

| | | |
|---|---|---|
| **Product characteristics** | : | Not applicable. |
| **Amounts used** | : | Not applicable. |
| **Frequency and duration of use** | : | Not applicable. |
| **Environment factors not influenced by risk management** | : | Not applicable. |
| **Other operational conditions of use affecting environmental exposure** | : | Not applicable. |
| **Technical conditions and measures at process level (source) to prevent release** | : | Not applicable. |
| **Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** | : | Not applicable. |
| **Organisational measures to prevent/limit release from site** | : | Not applicable. |
| **Conditions and measures related to municipal sewage treatment plant** | : | Not applicable. |

| | | |
|---|---|---|
| **Conditions and measures related to external treatment of waste for disposal** | : | Not applicable. |
| **Conditions and measures related to external recovery of waste** | : | Not applicable. |

**Contributing scenario controlling worker exposure for 2: General measures applicable to all activities**

**General measures (flammability) - Extremely flammable gas.**
Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.
Use in contained systems. Keep away from sources of ignition - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards/EU regulations/national regulations. Review SDS for additional advice..

| | | |
|---|---|---|
| **Product characteristics** | : | Liquified gas |
| **Concentration of substance in mixture or article** | : | Covers percentage substance in the product up to 100 %. |
| **Frequency and duration of use/exposure** | : | Covers daily exposures up to 8 hours (unless stated differently) |

**Conditions and measures related to personal protection, hygiene and health evaluation**

| | | |
|---|---|---|
| **Advice on general occupational hygiene** | : | Assumes a good basic standard of occupational hygiene is implemented |

## Section 3 - Exposure estimation and reference to its source

| | | |
|---|---|---|
| **Website:** | : | Not applicable. |

**Exposure estimation and reference to its source - Environment: 1: General exposures**

| | | |
|---|---|---|
| **Exposure assessment (environment):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities**

| | | |
|---|---|---|
| **Exposure assessment (human):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

## Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

| | | |
|---|---|---|
| **Environment** | : | Not applicable. |
| **Health** | : | Available hazard data do not support the need for a DNEL to be established for other health effects.<br>Risk management measures are based on qualitative risk characterisation. |

## Additional good practice advice beyond the REACH CSA

| | | |
|---|---|---|
| **Environment** | : | Not available. |
| **Health** | : | Not available. |

## Annex to the extended Safety Data Sheet (eSDS)

**Industrial**

## Identification of the substance or mixture

| | | |
|---|---|---|
| **Product definition** | : | UVCB |
| **Code** | : | 1158231 |
| **Product name** | : | PD SUPPLY CHEMICAL GRADE PROPYLENE (EU) |

## Section 1 - Title

| | | |
|---|---|---|
| **Short title of the exposure scenario** | : | Use as a fuel - Industrial |
| **List of use descriptors** | : | **Identified use name:** Use as a fuel - Industrial<br>**Process Category:** PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16<br>**Sector of end use:** SU03<br>**Subsequent service life relevant for that use:** No.<br>**Environmental Release Category:** ERC07 |
| **Environmental contributing scenarios** | : | **General exposures -** ERC07 |
| **Health Contributing scenarios** | : | **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16 |
| **Processes and activities covered by the exposure scenario** | : | Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste. |

## Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

| | | |
|---|---|---|
| **Product characteristics** | : | Not applicable. |
| **Amounts used** | : | Not applicable. |
| **Frequency and duration of use** | : | Not applicable. |
| **Environment factors not influenced by risk management** | : | Not applicable. |
| **Other operational conditions of use affecting environmental exposure** | : | Not applicable. |
| **Technical conditions and measures at process level (source) to prevent release** | : | Not applicable. |
| **Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** | : | Not applicable. |
| **Organisational measures to prevent/limit release from site** | : | Not applicable. |
| **Conditions and measures related to municipal sewage treatment plant** | : | Not applicable. |
| **Conditions and measures related to external treatment of waste for disposal** | : | Not applicable. |

**Conditions and measures related to external recovery of waste** : Not applicable.

**Contributing scenario controlling worker exposure for 2: General measures applicable to all activities**

**General measures (flammability) - Extremely flammable gas.**

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Keep away from sources of ignition - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards/EU regulations/national regulations. Review SDS for additional advice..

**Product characteristics** : Liquified gas

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours (unless stated differently)

**Conditions and measures related to personal protection, hygiene and health evaluation**

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

## Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1: General exposures**

**Exposure assessment (environment):** : Not applicable.

**Exposure estimation and reference to its source** : Not applicable.

**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities**

**Exposure assessment (human):** : Not applicable.

**Exposure estimation and reference to its source** : Not applicable.

## Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

**Environment** : Not applicable.

**Health** : Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

## Additional good practice advice beyond the REACH CSA

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

**Professional**

## Identification of the substance or mixture

| | | |
|---|---|---|
| **Product definition** | : | UVCB |
| **Code** | : | 1158231 |
| **Product name** | : | PD SUPPLY CHEMICAL GRADE PROPYLENE (EU) |

## Section 1 - Title

| | | |
|---|---|---|
| **Short title of the exposure scenario** | : | Use as a fuel - Professional |
| **List of use descriptors** | : | **Identified use name:** Use as a fuel - Professional<br>**Process Category:** PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC09, PROC16<br>**Sector of end use:** SU22<br>**Subsequent service life relevant for that use:** No.<br>**Environmental Release Category:** ERC09a, ERC09b |
| **Environmental contributing scenarios** | : | **General exposures -** ERC09a, ERC09b |
| **Health Contributing scenarios** | : | **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC09, PROC16 |
| **Processes and activities covered by the exposure scenario** | : | Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste. |

## Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

| | | |
|---|---|---|
| **Product characteristics** | : | Not applicable. |
| **Amounts used** | : | Not applicable. |
| **Frequency and duration of use** | : | Not applicable. |
| **Environment factors not influenced by risk management** | : | Not applicable. |
| **Other operational conditions of use affecting environmental exposure** | : | Not applicable. |
| **Technical conditions and measures at process level (source) to prevent release** | : | Not applicable. |
| **Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** | : | Not applicable. |
| **Organisational measures to prevent/limit release from site** | : | Not applicable. |
| **Conditions and measures related to municipal sewage treatment plant** | : | Not applicable. |

| | | |
|---|---|---|
| **Conditions and measures related to external treatment of waste for disposal** | : | Not applicable. |
| **Conditions and measures related to external recovery of waste** | : | Not applicable. |

**Contributing scenario controlling worker exposure for 2: General measures applicable to all activities**

**General measures (flammability) - Extremely flammable gas.**

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Keep away from sources of ignition - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards/EU regulations/national regulations. Review SDS for additional advice..

| | | |
|---|---|---|
| **Product characteristics** | : | Liquified gas |
| **Concentration of substance in mixture or article** | : | Covers percentage substance in the product up to 100 %. |
| **Frequency and duration of use/exposure** | : | Covers daily exposures up to 8 hours (unless stated differently) |

**Conditions and measures related to personal protection, hygiene and health evaluation**

| | | |
|---|---|---|
| **Advice on general occupational hygiene** | : | Assumes a good basic standard of occupational hygiene is implemented |

## Section 3 - Exposure estimation and reference to its source

| | | |
|---|---|---|
| **Website:** | : | Not applicable. |

**Exposure estimation and reference to its source - Environment: 1: General exposures**

| | | |
|---|---|---|
| **Exposure assessment (environment):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities**

| | | |
|---|---|---|
| **Exposure assessment (human):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

## Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

| | | |
|---|---|---|
| **Environment** | : | Not applicable. |
| **Health** | : | Available hazard data do not support the need for a DNEL to be established for other health effects.<br>Risk management measures are based on qualitative risk characterisation. |

## Additional good practice advice beyond the REACH CSA

| | | |
|---|---|---|
| **Environment** | : | Not available. |
| **Health** | : | Not available. |

## Annex to the extended Safety Data Sheet (eSDS)

**Professional**

## Identification of the substance or mixture

| | | |
|---|---|---|
| **Product definition** | : | UVCB |
| **Code** | : | 1158231 |
| **Product name** | : | PD SUPPLY CHEMICAL GRADE PROPYLENE (EU) |

## Section 1 - Title

| | | |
|---|---|---|
| **Short title of the exposure scenario** | : | Functional fluids - Professional |
| **List of use descriptors** | : | **Identified use name:** Functional fluids - Professional<br>**Process Category:** PROC01, PROC02, PROC03, PROC08a, PROC09, PROC20<br>**Sector of end use:** SU22<br>**Subsequent service life relevant for that use:** No.<br>**Environmental Release Category:** ERC09a, ERC09b |
| **Environmental contributing scenarios** | : | **General exposures -** ERC09a, ERC09b |
| **Health Contributing scenarios** | : | **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC08a, PROC09, PROC20 |
| **Processes and activities covered by the exposure scenario** | : | Use as functional fluids e.g. cable oils, transfer oils, insulators, refrigerants, hydraulic fluids in closed professional equipment including incidental exposures during maintenance and related material transfers. |

## Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

| | | |
|---|---|---|
| **Product characteristics** | : | Not applicable. |
| **Amounts used** | : | Not applicable. |
| **Frequency and duration of use** | : | Not applicable. |
| **Environment factors not influenced by risk management** | : | Not applicable. |
| **Other operational conditions of use affecting environmental exposure** | : | Not applicable. |
| **Technical conditions and measures at process level (source) to prevent release** | : | Not applicable. |
| **Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** | : | Not applicable. |
| **Organisational measures to prevent/limit release from site** | : | Not applicable. |
| **Conditions and measures related to municipal sewage treatment plant** | : | Not applicable. |
| **Conditions and measures related to external treatment of waste for disposal** | : | Not applicable. |

| | | |
|---|---|---|
| **Conditions and measures related to external recovery of waste** | : | Not applicable. |

**Contributing scenario controlling worker exposure for 2: General measures applicable to all activities**

**General measures (flammability) - Extremely flammable gas.**

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Keep away from sources of ignition - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards/EU regulations/national regulations. Review SDS for additional advice..

| | | |
|---|---|---|
| **Product characteristics** | : | Liquified gas |
| **Concentration of substance in mixture or article** | : | Covers percentage substance in the product up to 100 %. |
| **Frequency and duration of use/exposure** | : | Covers daily exposures up to 8 hours (unless stated differently) |

**Conditions and measures related to personal protection, hygiene and health evaluation**

| | | |
|---|---|---|
| **Advice on general occupational hygiene** | : | Assumes a good basic standard of occupational hygiene is implemented |

## Section 3 - Exposure estimation and reference to its source

| | | |
|---|---|---|
| **Website:** | : | Not applicable. |

**Exposure estimation and reference to its source - Environment: 1: General exposures**

| | | |
|---|---|---|
| **Exposure assessment (environment):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities**

| | | |
|---|---|---|
| **Exposure assessment (human):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

## Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

| | | |
|---|---|---|
| **Environment** | : | Not applicable. |
| **Health** | : | Available hazard data do not support the need for a DNEL to be established for other health effects.<br>Risk management measures are based on qualitative risk characterisation. |

## Additional good practice advice beyond the REACH CSA

| | | |
|---|---|---|
| **Environment** | : | Not available. |
| **Health** | : | Not available. |

## Annex to the extended Safety Data Sheet (eSDS)

**Industrial**

## Identification of the substance or mixture

| | | |
|---|---|---|
| **Product definition** | : | UVCB |
| **Code** | : | 1158231 |
| **Product name** | : | PD SUPPLY CHEMICAL GRADE PROPYLENE (EU) |

## Section 1 - Title

| | | |
|---|---|---|
| **Short title of the exposure scenario** | : | Use in polymer production - Industrial |
| **List of use descriptors** | : | **Identified use name:** Use in polymer production - Industrial<br>**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC08a, PROC08b, PROC14<br>**Sector of end use:** SU08, SU09, SU10, SU11, SU12, SU13<br>**Subsequent service life relevant for that use:** No.<br>**Environmental Release Category:** ERC04, ERC07 |
| **Environmental contributing scenarios** | : | **General exposures -** ERC04, ERC07 |
| **Health Contributing scenarios** | : | **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC08a, PROC08b, PROC14 |
| **Processes and activities covered by the exposure scenario** | : | Manufacture of polymers from monomers in continuous and batch processes. Including production, re-cycling and recovery, degassing, discharging, reactor maintenance and immediate polymer product formation (i.e. compounding, pelletisation, product off-gassing) |

## Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

| | | |
|---|---|---|
| **Product characteristics** | : | Not applicable. |
| **Amounts used** | : | Not applicable. |
| **Frequency and duration of use** | : | Not applicable. |
| **Environment factors not influenced by risk management** | : | Not applicable. |
| **Other operational conditions of use affecting environmental exposure** | : | Not applicable. |
| **Technical conditions and measures at process level (source) to prevent release** | : | Not applicable. |
| **Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** | : | Not applicable. |
| **Organisational measures to prevent/limit release from site** | : | Not applicable. |
| **Conditions and measures related to municipal sewage treatment plant** | : | Not applicable. |

| | | |
|---|---|---|
| **Conditions and measures related to external treatment of waste for disposal** | : | Not applicable. |
| **Conditions and measures related to external recovery of waste** | : | Not applicable. |

**Contributing scenario controlling worker exposure for 2: General measures applicable to all activities**

**General measures (flammability) - Extremely flammable gas.**
Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.
Use in contained systems. Keep away from sources of ignition - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards/EU regulations/national regulations. Review SDS for additional advice..

| | | |
|---|---|---|
| **Product characteristics** | : | Liquified gas |
| **Concentration of substance in mixture or article** | : | Covers percentage substance in the product up to 100 %. |
| **Frequency and duration of use/exposure** | : | Covers daily exposures up to 8 hours (unless stated differently) |

**Conditions and measures related to personal protection, hygiene and health evaluation**

| | | |
|---|---|---|
| **Advice on general occupational hygiene** | : | Assumes a good basic standard of occupational hygiene is implemented |

## Section 3 - Exposure estimation and reference to its source

| | | |
|---|---|---|
| **Website:** | : | Not applicable. |

**Exposure estimation and reference to its source - Environment: 1: General exposures**

| | | |
|---|---|---|
| **Exposure assessment (environment):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities**

| | | |
|---|---|---|
| **Exposure assessment (human):** | : | Not applicable. |
| **Exposure estimation and reference to its source** | : | Not applicable. |

## Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

| | | |
|---|---|---|
| **Environment** | : | Not applicable. |
| **Health** | : | Available hazard data do not support the need for a DNEL to be established for other health effects.<br>Risk management measures are based on qualitative risk characterisation. |

## Additional good practice advice beyond the REACH CSA

| | | |
|---|---|---|
| **Environment** | : | Not available. |
| **Health** | : | Not available. |

## Annex to the extended Safety Data Sheet (eSDS)

**Consumer**

## Identification of the substance or mixture

| | | |
|---|---|---|
| **Product definition** | : | UVCB |
| **Code** | : | 1158231 |
| **Product name** | : | PD SUPPLY CHEMICAL GRADE PROPYLENE (EU) |

## Section 1 - Title

| | | |
|---|---|---|
| **Short title of the exposure scenario** | : | Use as a fuel - Consumer |
| **List of use descriptors** | : | **Identified use name:** Use as a fuel - Consumer<br>**Sector of end use:** SU21<br>**Subsequent service life relevant for that use:** No.<br>**Environmental Release Category:** ERC09a, ERC09b<br>**Market sector by type of chemical product:** PC13 |
| **Environmental contributing scenarios** | : | **General exposures -** ERC09a, ERC09b |
| **Health Contributing scenarios** | : | **General measures applicable to all activities -** PC13 |
| **Processes and activities covered by the exposure scenario** | : | Covers consumer uses in liquid fuels. |

## Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

| | | |
|---|---|---|
| **Product characteristics** | : | Not applicable. |
| **Amounts used** | : | Not applicable. |
| **Frequency and duration of use** | : | Not applicable. |
| **Environment factors not influenced by risk management** | : | Not applicable. |
| **Other operational conditions of use affecting environmental exposure** | : | Not applicable. |
| **Conditions and measures related to municipal sewage treatment plant** | : | Not applicable. |
| **Conditions and measures related to external treatment of waste for disposal** | : | Not applicable. |
| **Conditions and measures related to external recovery of waste** | : | Not applicable. |

**Contributing scenario controlling consumer exposure for 2: General measures applicable to all activities**

**General measures (flammability) - Extremely flammable gas.**
Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For flammable substances a selection of the following measures need to be implemented to control unintended ignition of flammable substances. These measures are expected to be suitable to prevent minor accidents which might occur during consumer use. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, it is anticipated that there is no immediate concern as the risk should be controlled to an acceptable level. Use only with adequate ventilation. Keep away from sources of ignition - No smoking. Review SDS for additional advice..

**Product characteristics** : Liquified gas

**Amounts used** : Not applicable.

**Frequency and duration of use/exposure** : Not applicable.

**Conditions and measures related to personal protection and hygiene**

**Advice on general occupational hygiene** : Not available.

## Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1: General exposures**

**Exposure assessment (environment):** : Not applicable.

**Exposure estimation and reference to its source** : Not applicable.

**Exposure estimation and reference to its source - Consumers: 2: General measures applicable to all activities**

**Exposure assessment (human):** : Not applicable.

**Exposure estimation and reference to its source** : Not applicable.

## Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

**Environment** : Not applicable.

**Health** : Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

## Additional good practice advice beyond the REACH CSA

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

**Consumer**

## Identification of the substance or mixture

| | | |
|---|---|---|
| **Product definition** | : | UVCB |
| **Code** | : | 1158231 |
| **Product name** | : | PD SUPPLY CHEMICAL GRADE PROPYLENE (EU) |

## Section 1 - Title

| | | |
|---|---|---|
| **Short title of the exposure scenario** | : | Functional fluids - Consumer |
| **List of use descriptors** | : | **Identified use name:** Functional fluids - Consumer<br>**Sector of end use:** SU21<br>**Subsequent service life relevant for that use:** No.<br>**Environmental Release Category:** ERC09a, ERC09b<br>**Market sector by type of chemical product:** PC16, PC17 |
| **Environmental contributing scenarios** | : | **General exposures -** ERC09a, ERC09b |
| **Health Contributing scenarios** | : | **General measures applicable to all activities -** PC16, PC17 |
| **Processes and activities covered by the exposure scenario** | : | Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants |

## Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

| | | |
|---|---|---|
| **Product characteristics** | : | Not applicable. |
| **Amounts used** | : | Not applicable. |
| **Frequency and duration of use** | : | Not applicable. |
| **Environment factors not influenced by risk management** | : | Not applicable. |
| **Other operational conditions of use affecting environmental exposure** | : | Not applicable. |
| **Conditions and measures related to municipal sewage treatment plant** | : | Not applicable. |
| **Conditions and measures related to external treatment of waste for disposal** | : | Not applicable. |
| **Conditions and measures related to external recovery of waste** | : | Not applicable. |

**Contributing scenario controlling consumer exposure for 2: General measures applicable to all activities**

**General measures (flammability) - Extremely flammable gas.**
Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For flammable substances a selection of the following measures need to be implemented to control unintended ignition of flammable substances. These measures are expected to be suitable to prevent minor accidents which might occur during consumer use. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, it is anticipated that there is no immediate concern as the risk should be controlled to an acceptable level. Use only with adequate ventilation. Keep away from sources of ignition - No smoking. Review SDS for additional advice..

**Product characteristics** : Liquified gas

**Amounts used** : Not applicable.

**Frequency and duration of use/exposure** : Not applicable.

**Conditions and measures related to personal protection and hygiene**

**Advice on general occupational hygiene** : Not available.

## Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1: General exposures**

**Exposure assessment (environment):** : Not applicable.

**Exposure estimation and reference to its source** : Not applicable.

**Exposure estimation and reference to its source - Consumers: 2: General measures applicable to all activities**

**Exposure assessment (human):** : Not applicable.

**Exposure estimation and reference to its source** : Not applicable.

## Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

**Environment** : Not applicable.

**Health** : Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

## Additional good practice advice beyond the REACH CSA

**Environment** : Not available.

**Health** : Not available.

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