

**Marlex® 1013 Polyethylene**

Version 1.5

Revision Date 2025-09-29

According to Regulation (EC) No. 1907/2006, Regulation (EC) No. 2020/878

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

Product Name : Marlex® 1013 Polyethylene  
Material : 1115111, 1042080, 1040032, 1042076, 1042077, 1042079,  
1040031, 1044089, 1044090, 1044087, 1044091, 1044088,  
1042078

**EC-No.Registration number**

| Chemical name | CAS-No.<br>EC-No.<br>Index No.       | Legal Entity<br>Registration number                                  |
|---------------|--------------------------------------|----------------------------------------------------------------------|
| Ethylene      | 74-85-1<br>200-815-3<br>601-010-00-3 | Chevron Phillips Chemical Company LP<br>01-2119462827-27-0004        |
| Ethylene      | 74-85-1<br>200-815-3<br>601-010-00-3 | Chevron Phillips Chemicals International NV<br>01-2119462827-27-0271 |

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

Relevant Identified Uses : Manufacture of plastics products  
Supported  
Uses advised against : This material should not be used for purposes other than the  
identified uses in section 1 without expert advice.

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

**Company** : Chevron Phillips Chemical Company LP  
9500 Lakeside Blvd.  
The Woodlands, TX 77381

**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**

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**Emergency telephone:****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: POISON CENTER MILAN – Azienda Ospedaliera Niguarda Ca` Grande Tel. +39 02

66101029; POISON CENTER ROME – Policlinico “Agostino Gemelli”, Servizio di tossicologia

clinica Tel. +39 06 3054343; POISON CENTER ROME – Ospedale Pediatrico Bambino Gesù

Tel. +39 06 68593726; POISON CENTER ROME – Policlinico “Umberto I” Tel. +39 06 4997 8000;

POISON CENTER FOGGIA – Azienda Ospedaliera Universitaria Riuniti Tel. +39 0881 732326;

POISON CENTER NAPLES – Azienda Ospedaliera “Antonio Cardarelli” Tel. +39 081 7472870;

POISON CENTER FLORENCE – Azienda Ospedaliera universitaria Careggi Tel. +39 055

7947819; POISON CENTER PAVIA – IRCCS Fondazione Salvatore Maugeri Tel. +39 0382

24444; POISON CENTER BERGAMO – Azienda Ospedaliera “Papa Giovanni XXIII” Tel. 800 883

300; POISON CENTER VERONA – Azienda Ospedaliera Universitaria integrata Tel. 800 011

858;

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

Organization that prepared the SDS : Product Safety and Toxicology Group

E-mail address : SDS@CPChem.com

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Website : [www.CPChem.com](http://www.CPChem.com)

**MEDICAL APPLICATION CAUTION:** Do not use this material in medical applications involving permanent implantation in the human body or permanent contact with internal body fluids or tissues fluids or tissues.

Do not use this material in medical applications involving brief or temporary implantation in the human body or contact with internal body fluids or tissues unless the material has been provided directly from Chevron Phillips Chemical Company LP or its legal affiliates under an agreement which expressly acknowledges the contemplated use.

Chevron Phillips Chemical Company LP and its legal affiliates makes no representation, promise, express warranty or implied warranty concerning the suitability of this material for use in implantation in the human body or in contact with internal body fluids or tissues.

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

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

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

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

**2.3****Other hazards**

Results of PBT and vPvB assessment : Non-classified vPvB substance

Endocrine disrupting properties : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**SECTION 3: Composition/information on ingredients****Hazardous ingredients**

| Chemical name | CAS-No.<br>EC-No.<br>Index No. | Classification<br>(REGULATION (EC)<br>No 1272/2008) | Concentration<br>[wt%] | Specific Conc.<br>Limits, M-factors<br>and ATEs |
|---------------|--------------------------------|-----------------------------------------------------|------------------------|-------------------------------------------------|
| Polyethylene  | 9002-88-4                      |                                                     | 100                    |                                                 |

Contains no hazardous ingredients according to GHS. :

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

- If inhaled : Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion. If symptoms persist, call a physician.
- In case of skin contact : If the molten material gets on skin, quickly cool in water. Seek immediate medical attention. Do not try to peel the solidified material from the skin or use solvents or thinners to dissolve it.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- If swallowed : Do not induce vomiting without medical advice.

**4.2 Most important symptoms and effects, both acute and delayed****Notes to physician****4.3 Indication of any immediate medical attention and special treatment needed**

- Treatment : Treat symptomatically.

**SECTION 5: Firefighting measures**

- Flash point : No data available

- Autoignition temperature : No data available

**5.1****Extinguishing media**

- Suitable extinguishing media : Water. Water mist. Dry chemical. Carbon dioxide (CO<sub>2</sub>). Foam. If possible, water should be applied as a spray from a fogging nozzle since this is a surface burning material. The application of high velocity water will spread the burning surface layer. Avoid the use of straight streams that may create a dust cloud and the risk of a dust explosion. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : Do NOT use water jet.

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

- Specific hazards during fire fighting : Risks of ignition followed by flame propagation or secondary explosions can be caused by the accumulation of dust, e.g. on floors and ledges.

**5.3****Advice for firefighters**

- Special protective equipment for fire-fighters : Use personal protective equipment. Wear self-contained breathing apparatus for firefighting if necessary.
- Further information : This material will burn although it is not easily ignited.

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- Fire and explosion protection : Treat as a solid that can burn. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
- Hazardous decomposition products : Normal combustion forms carbon dioxide, water vapor and may produce carbon monoxide, other hydrocarbons and hydrocarbon oxidation products (ketones, aldehydes, organic acids) depending on temperature and air availability. Incomplete combustion can also produce formaldehyde.

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

- Personal precautions : Sweep up to prevent slipping hazard. Avoid breathing dust. Avoid dust formation.

**6.2****Environmental precautions**

- Environmental precautions : Do not contaminate surface water. Prevent product from entering drains.

**6.3****Methods and materials for containment and cleaning up**

- Methods for cleaning up : Clean up promptly by sweeping or vacuum.
- Additional advice : Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

**6.4****Reference to other sections**

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

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

- Advice on safe handling : Use good housekeeping for safe handling of the product. Keep out of water sources and sewers. Spilled pellets may create a slipping hazard.
- Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary, but may not by themselves be sufficient. At elevated temperatures (>350°F, >177°C), polyethylene can release vapors and gases, which are irritating to the mucous membranes of the eyes, mouth, throat, and lungs. These substances may include acetaldehyde, acetone, acetic acid, formic acid, formaldehyde and acrolein. Based on animal data and limited epidemiological evidence, formaldehyde has been listed as a

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carcinogen. Following all recommendations within this SDS should minimize exposure to thermal processing emissions.

Advice on protection against fire and explosion : Treat as a solid that can burn. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

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

Requirements for storage areas and containers : Keep in a dry place. Keep in a well-ventilated place.

Uses advised against : This material should not be used for purposes other than the identified uses in section 1 without expert advice.

Advice on common storage : Do not store together with oxidizing and self-igniting products.

**SECTION 8: Exposure controls/personal protection****8.2****Exposure controls****Engineering measures**

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 : No respiratory protection is normally required. If heated material generates vapor or fumes that are not adequately controlled by ventilation, wear an appropriate respirator. Use the following elements for air-purifying respirators: Organic Vapor and Formaldehyde. 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.  
Dust safety masks are recommended when the dust concentration is excessive.

Eye protection : Use of safety glasses with side shields for solid handling is good industrial practice. If this material is heated, wear chemical goggles or safety glasses with side shields or a face shield. If there is potential for dust, use chemical goggles.

Skin and body protection : At ambient temperatures use of clean and protective clothing is good industrial practice. If the material is heated or molten,

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wear thermally insulated, heat-resistant gloves that are able to withstand the temperature of the molten product. If this material is heated, wear insulated clothing to prevent skin contact if engineering controls or work practices are not adequate.

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

|                |                     |
|----------------|---------------------|
| Form           | : Pellets           |
| Physical state | : solid             |
| Color          | : Opaque            |
| Odor           | : Mild to no odor   |
| Odor Threshold | : No data available |

**Safety data**

|                                         |                                                                                                                                                                                                       |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flash point                             | : No data available                                                                                                                                                                                   |
| Lower explosion limit                   | : Not applicable                                                                                                                                                                                      |
| Upper explosion limit                   | : Not applicable                                                                                                                                                                                      |
| Autoignition temperature                | : No data available                                                                                                                                                                                   |
| Thermal decomposition                   | : Low molecular weight hydrocarbons, alcohols, aldehydes, acids and ketones can be formed during thermal processing.                                                                                  |
| pH                                      | : Not applicable                                                                                                                                                                                      |
| Melting point/ range                    | : 90-140°C (194-284°F)                                                                                                                                                                                |
| Freezing point                          | Not applicable                                                                                                                                                                                        |
| Initial boiling point and boiling range | : Not applicable                                                                                                                                                                                      |
| Vapor pressure                          | : Not applicable                                                                                                                                                                                      |
| Relative density                        | : Not applicable                                                                                                                                                                                      |
| Density                                 | : 0,91 - 0,97 g/cm3<br>Please refer to the Technical Data Sheet (TDS) for more detailed information relating to the nominal physical properties, including density, of this polyethylene resin grade. |
| Water solubility                        | : negligible                                                                                                                                                                                          |
| Partition coefficient: n-octanol/water  | : No data available                                                                                                                                                                                   |
| Solubility in other solvents            | : No data available                                                                                                                                                                                   |

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|                        |                  |
|------------------------|------------------|
| Viscosity, dynamic     | : Not applicable |
| Viscosity, kinematic   | : Not applicable |
| Relative vapor density | : Not applicable |
| Evaporation rate       | : Not applicable |
| Particle size          | Not applicable   |

**SECTION 10: Stability and reactivity****10.1**

**Reactivity** : This material is considered non-reactive under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**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: None known.

**10.4**

**Conditions to avoid** : Avoid prolonged storage at elevated temperature.

**10.5**

**Materials to avoid** : Avoid contact with strong oxidizing agents.

**Thermal decomposition** : Low molecular weight hydrocarbons, alcohols, aldehydes, acids and ketones can be formed during thermal processing.

**10.6**

**Hazardous decomposition products** : Normal combustion forms carbon dioxide, water vapor and may produce carbon monoxide, other hydrocarbons and hydrocarbon oxidation products (ketones, aldehydes, organic acids) depending on temperature and air availability. Incomplete combustion can also produce formaldehyde.

**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** : Presumed Not Toxic**Marlex® 1013 Polyethylene**  
**Acute inhalation toxicity** : Presumed Not Toxic**Marlex® 1013 Polyethylene**  
**Acute dermal toxicity** : Presumed Not Toxic**Marlex® 1013 Polyethylene**  
**Skin irritation** : No skin irritation**Marlex® 1013 Polyethylene**  
**Eye irritation** : No eye irritation**Marlex® 1013 Polyethylene**  
**Sensitization** : Did not cause sensitization on laboratory animals.**11.2****Information on other hazards****Marlex® 1013 Polyethylene**  
**Further information** : This product contains POLYMERIZED OLEFINS. During thermal processing (>350°F, >177°C) polyolefins can release vapors and gases (aldehydes, ketones and organic acids) which are irritating to the mucous membranes of the eyes, mouth, throat, and lungs. Generally these irritant effects are all transitory. However, prolonged exposure to irritating off-gases can lead to pulmonary edema. Formaldehyde (an aldehyde) has been classified as a carcinogen based on animal data and limited epidemiological evidence.**Endocrine disrupting properties** : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.**SECTION 12: Ecological information****12.1****Toxicity****Ecotoxicity effects****Toxicity to fish** : Not applicable**Toxicity to daphnia and other aquatic invertebrates** : No data available**12.2****Persistence and degradability**

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

**12.3****Bioaccumulative potential**

Elimination information (persistence and degradability)

Bioaccumulation : Does not bioaccumulate.

**12.4****Mobility in soil**

Mobility : The product is insoluble and floats on water.

**12.5****Results of PBT and vPvB assessment**

Results of PBT assessment : Non-classified vPvB substance

**12.6****Endocrine disrupting properties**

Endocrine disrupting properties : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.7****Other adverse effects**

Additional ecological information : This material is not expected to be harmful to aquatic organisms., Fish or birds may eat pellets which may obstruct their digestive tracts.

**12.8****Additional Information****Ecotoxicology Assessment**

Short-term (acute) aquatic hazard : This product has no known ecotoxicological effects.

Long-term (chronic) aquatic hazard : This product has no known ecotoxicological effects.

**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.

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

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**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 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)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

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

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

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

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

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

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**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) 2020/878 of 18 June 2020 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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**15.2**

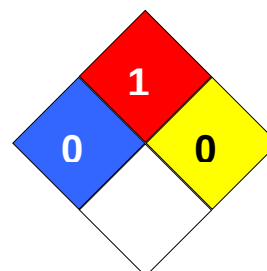
**Major Accident Hazard Legislation** : ZEU\_SEVES3 Update:  
Not applicable

**Notification status**

Europe REACH : This product is in full compliance according to REACH regulation 1907/2006/EC.  
Switzerland CH INV : On the inventory, or in compliance with the inventory  
United States of America (USA) TSCA : All substances listed as active on the TSCA inventory  
Canada DSL : All components of this product are on the Canadian DSL  
Australia AIIC : 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 : Not in compliance with the inventory  
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  
Other TECI : On the inventory, or in compliance with the inventory

**SECTION 16: Other information**

**NFPA Classification** : Health Hazard: 0  
Fire Hazard: 1  
Reactivity Hazard: 0



**Revision Date** : 2025-09-29  
**Date of last issue** : 2016-05-26

**Further information**

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

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%                |
| AIIC  | Australian Inventory of Industrial                      | LOAEL | Lowest Observed Adverse Effect |

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|        | Chemicals                                                |       | 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%                                 | ATE   | Acute toxicity estimate                                                              |