

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



CRUDE C4

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08/14/2026	BEN247	Date of first issue: 08/14/2026

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

1.1 Product identifier

Trade name	:	CRUDE C4
Synonyms	:	Hydrocarbons, C4, ethylene-manuf.-by-product
Substance name	:	Hydrocarbons, C4, ethylene-manuf.-by-product
Substance No.	:	270-691-3

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

Identified uses	:	Manufacture; Distribution of substance; Use as intermediate; Formulation; Uses in Coatings; Use as a fuel; Manufacture of rubber products; Polymer production; Polymer processing
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1.3 Details of the supplier of the safety data sheet

Company	Registration number	Telephone
Velogy Polyoléfines France SAS Chemin départemental 54 B.P. 14 13131 Berre l'Etang Cedex France	01-2119473796-21-0001	+33 (0) 4 42 74 42 74
Raffinerie de Berre		
MUO Polyolefine GmbH Berghäuser Weg 50 85126 Münchsmünster Germany	01-2119473796-21-0041	+49 (0)8402 76329
E-mail address Responsible/issuing person	: RegulatoryComplianceROP@velogy.com	

1.4 Emergency telephone number

Velogy Polyoléfines France SAS	+33 (0) 4 42 74 42 74
MUO Polyolefine GmbH	+49 (0) 8402 76112

Poison Center:

Giftnotruf der Charité
DE: +49 30 19240
24 hours all days

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable gases, Category 1A	H220: Extremely flammable gas.
Gases under pressure, Compressed gas	H280: Contains gas under pressure; may explode if heated.
Germ cell mutagenicity, Category 1B	H340: May cause genetic defects.
Carcinogenicity, Category 1A	H350: May cause cancer.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :

H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
H340	May cause genetic defects.
H350	May cause cancer.

Precautionary statements :

Prevention:

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P308 + P313	IF exposed or concerned: Get medical advice/ attention.
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.
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2.3 Other hazards

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

Ecological information: 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.

Toxicological information: 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.

May cause frostbite.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : Hydrocarbons, C4, ethylene-manuf.-by-product

EC-No. : 270-691-3

Components

Chemical name	CAS-No. EC-No.	Concentration (%) w/w)	M-Factor, SCL, ATE
Substances with a workplace exposure limit :			
1,3-butadiene	106-99-0 203-450-8	>= 30 - < 50	

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Consult a physician/doctor if necessary.
Show this material safety data sheet to the doctor in attendance.
Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid.

If inhaled : Move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. When breathing is difficult, properly trained personnel may assist the affected person by administering oxygen. Keep the affected person warm and at rest. Get medical attention immediately.
If unconscious, place in recovery position and seek medical advice.
Do not leave the victim unattended.

In case of skin contact : Dermal contact with rapidly evaporating liquid could result in

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freezing of the tissues or frostbite.
If frostbite has occurred, seek medical attention immediately; do not rub the affected area or flush with water. To prevent further damage, do not attempt to remove frozen clothing from affected area.
If frostbite has not occurred, immediately flush affected area with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

In case of eye contact : If eye tissue is frozen, seek medical attention immediately. If tissue is not frozen, thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists seek medical attention.

If swallowed : Ingestion is not a route of exposure for gases.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Inhalation of very high concentrations may cause asphyxia, anesthesia, CNS depression (primarily fatigue, dizziness and loss of concentration, with collapse, coma and death in cases of severe overexposure), and possible cardiac sensitization. Skin or eye irritation is not likely, but evaporating liquid might cause frost injuries.

Risks : May cause genetic defects.
May cause cancer.
Skin or eye contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.
Simple asphyxiant, high concentrations can displace oxygen and cause drowsiness and dizziness.
Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias (irregular beating) in persons exposed to this material.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.
Treat frost-bitten areas as needed.
If breathing has stopped, apply artificial respiration.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : LARGE FIRE: Use water spray, water fog or foam. DO NOT use straight streams

SMALL FIRE: Use dry chemical, CO2, water spray or regular foam

Unsuitable extinguishing : Do not extinguish a leaking gas fire unless leak can be

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media stopped.
Do not use solid water stream - may spread fire.

Specific hazards during fire-fighting	: May polymerize explosively when involved in a fire. Vapors may travel long distances along the ground before reaching a source of ignition and flashing back. Reacts with air to form peroxides.
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Thermal decomposition may produce oxides of carbon and other toxic gases and liberate heat and pressure.

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : Wear an approved positive pressure self-contained breathing apparatus and firefighter turnout gear.

Further information :

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Always stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
- Move containers from fire area if it can be done without risk.

SECTION 6: Accidental release measures

Personal precautions	:	Use personal protective equipment. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Spillages of liquid product will create a fire hazard and form an explosive atmosphere Avoid direct contact with released material. Stay upwind. Keep non-involved personnel away from the area of spillage. See section 8 for additional PPE information. See section 13 for disposal information.
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Environmental precautions : Discharge into the environment must be avoided.

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6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Eliminate all sources of ignition.
Let evaporate.
All equipment used when handling this product must be grounded.
Stop leak if you can do it without risk.
Isolate area until gas has dispersed.
Water spray may reduce vapor; but may not prevent ignition in closed spaces.
Prevent entry into waterways, sewers, basements or confined areas.
Caution: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.

6.4 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

Advice on safe handling : Do not handle near heat, sparks, or open flame.
Do not enter areas where used or stored until adequately ventilated.
Metal containers involved in the transfer of this material should be grounded and bonded.
Bonding and grounding measures may not be enough if non-conductive flammables are involved.
If exposure to liquid butadiene (unusual conditions, such as a leaking pressurized cylinder) were to occur, the rapid evaporation of this substance could cause severe cooling and damage to the skin in the form of frostbite.
Check atmosphere for explosiveness and oxygen deficiencies.
Wear recommended personal protective equipment.
Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair.
All equipment must conform to applicable electrical code.
Use only non-sparking tools.
Do not pressurize, cut, weld, braze solder, drill, or grind on containers.
While moving cylinder, always keep in place removable valve cover.
Securely chain cylinders when in use and protect against physical damage.

Do not pressurize or expose empty containers to open flame, sparks, or heat.
Handle empty containers with care; vapor residue may be flammable/explosive.

Advice on protection against : Take precautionary measures against static discharge.

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fire and explosion

Hygiene measures : Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Consult the appropriate European norm (EN) standard before deciding on the type of personal protective equipment that is appropriate for a particular set of circumstances. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep storage containers clean, dry and free of oxygen. Store in accordance with the particular national regulations. Oxygen intrusion into the vessel headspace may support the formation of peroxides and promote popcorn polymer growth. Popcorn polymer may plug safety-venting devices, plug lines and foul equipment. Polymer formation may build sufficient mechanical force to rupture equipment. Store in tightly closed containers segregated from oxidizers and other combustible material. Provide electrical equipment with spark resistant construction.

Storage class (TRGS 510) : 2A

7.3 Specific end use(s)

Specific use(s) : (Refer to exposure scenario section for specific information).

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
1,3-butadiene	106-99-0	TWA	1 ppm 2.2 mg/m3	2004/37/EC
Further information: Carcinogens or mutagens				
		Acceptable concentration	0.2 ppm 0.5 mg/m3	DE TRGS 910
		Tolerable concentration	2 ppm 5 mg/m3	DE TRGS 910
Peak-limit: excursion factor (category): 8 - Excursion factor according to Number 3.2.6				
n-Butane	106-97-8	AGW	1,000 ppm 2,400 mg/m3	DE TRGS 900

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	Peak-limit: excursion factor (category): 4;(II)			
		MAK	1,000 ppm 2,400 mg/m3	DE DFG MAK
	Peak-limit: excursion factor (category): 4; II			
	Further information: Either there are no data for an assessment of damage to the embryo or foetus, including developmental neurotoxicity, or the currently available data are not sufficient for classification in one of the groups A - C			
Isobutane	75-28-5	AGW	1,000 ppm 2,400 mg/m3	DE TRGS 900
	Peak-limit: excursion factor (category): 4;(II)			
		MAK	1,000 ppm 2,400 mg/m3	DE DFG MAK
	Peak-limit: excursion factor (category): 4; II			
	Further information: Either there are no data for an assessment of damage to the embryo or foetus, including developmental neurotoxicity, or the currently available data are not sufficient for classification in one of the groups A - C			

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
1,3-butadiene	106-99-0	3,4-dihydroxybutylmercapturic acid (DHBMA): 2900 µg/g creatinine (Urine)	Equivalence Value for Tolerable concentration: end of exposure or end of shift, Equivalence Value for Tolerable concentration: with long-term exposure: at the end of the shift after several previous shifts	TRGS 910
		3,4-dihydroxybutylmercapturic acid (DHBMA): 600 µg/g creatinine (Urine)	Equivalence Value for Acceptance concentration: end of exposure or end of shift, Equivalence Value for Acceptance concentration: with long-term exposure: at the end of the shift after several previous shifts	TRGS 910
		2-hydroxy-3-butenylmercapturic acid (MHBMA): 80 µg/g creatinine (Urine)	Equivalence Value for Tolerable concentration: end of exposure or end of shift, Equivalence Value for Tolerable concentration: with long-term exposure: at the end of the shift after several previous shifts	TRGS 910

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		2-hydroxy-3-butenyl-mercapturic acid (MHBMA): 10 µg/g creatinine (Urine)	Equivalence Value for Acceptance concentration: end of exposure or end of shift, Equivalence Value for Acceptance concentration: with long-term exposure: at the end of the shift after several previous shifts	TRGS 910
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8.2 Exposure controls

Appropriate engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection : Safety glasses are the minimum requirements.
Use chemical type goggles and face shield when handling liquefied gases.
The selected goggles or glasses must satisfy the European norm standard EN 166.

Hand protection

Remarks : Wear insulated gloves if contact with liquid is possible. The selected gloves must satisfy the European norm standard EN 511 for protection against the cold.

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Use only approved supplied air or self-contained breathing apparatus operated in positive pressure mode.
If needed, wear a supplied air respirator conforming to a European norm standard such as EN 139 or equivalent.
Wear a respirator conforming to EN 371 with Type AX filter designed for low boiling compounds.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : gaseous (20 °C, 1,013 hPa)

Form : Compressed gas

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Colour	:	colorless
Odour	:	hydrocarbon-like
Odour Threshold	:	Not applicable
Melting point/range	:	-105.5 °C
Freezing point	:	no data available
Boiling point/boiling range	:	Not applicable (gas).
Upper explosion limit / Upper flammability limit	:	12 vol%
Lower explosion limit / Lower flammability limit	:	1.6 vol%
Flash point	:	not determined
Decomposition temperature	:	no data available
pH	:	Not applicable.
Viscosity Viscosity, kinematic	:	Not applicable (gas).
Solubility(ies) Water solubility	:	0.1356 - 0.7923 g/l (20 °C)
Partition coefficient: n-octanol/water	:	log Pow: 2.09 - 2.31
Vapour pressure	:	2,170 hPa (16.85 °C) 2,550 hPa (21.85 °C)

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Density : Not applicable (gas).

9.2 Other information

Explosives : Not applicable.

(No chemical groups associated with explosive properties.)

Oxidizing properties : Not considered an oxidizing agent.

Self-ignition : 364 - 413 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

May react with oxygen to form peroxides.

10.2 Chemical stability

This material is stable when properly handled and stored.

The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is noticeably exceeded, the product may polymerize with heat evolution.

1,3-butadiene may react with oxygen to form unstable butadiene peroxides. Butadiene peroxides are thermally unstable, shock sensitive and may lead to the formation of popcorn polymer.

10.3 Possibility of hazardous reactions

Hazardous reactions : Polymerization may take place at elevated temperatures or in the presence of oxidizers. The formation of popcorn polymer can build sufficient mechanical force to rupture process equipment. Polymer may also plug safety venting devices.

10.4 Conditions to avoid

Conditions to avoid : All sources of ignition, high temperature and oxygen intrusion into storage and transportation vessels. Elevated temperature or catalysis can cause violent rupture of containers.

10.5 Incompatible materials

Materials to avoid : Phenol, ethanol, chlorine dioxide, crotonaldehyde, nitric acid, oxygen and other strong oxidizers, and acetylide forming materials such as copper, magnesium, mercury, silver and monel. Contact may form violently explosive peroxides.

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10.6 Hazardous decomposition products

Explosive peroxides.
4-Vinylcyclohexene-1

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Based on available data, the classification criteria are not met.

Components:

1,3-butadiene:

Acute oral toxicity	:	Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	LC50 (Rat): 285 mg/l Exposure time: 4 HOURS Test atmosphere: gas
Acute dermal toxicity	:	Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Components:

1,3-butadiene:

Assessment	:	No skin irritation
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Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Components:

1,3-butadiene:

Assessment	:	No eye irritation
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Respiratory or skin sensitisation

Skin sensitisation

Based on available data, the classification criteria are not met.

Respiratory sensitisation

Based on available data, the classification criteria are not met.

Components:

1,3-butadiene:

Assessment	:	Did not cause sensitization on laboratory animals.
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Germ cell mutagenicity

May cause genetic defects.

Components:

1,3-butadiene:

Germ cell mutagenicity- Assessment : Presumed to induce heritable mutations in the germ cells of humans.

Carcinogenicity

May cause cancer.

Components:

1,3-butadiene:

Carcinogenicity - Assessment : Positive evidence from human epidemiological studies

Reproductive toxicity

Based on available data, the classification criteria are not met.

Components:

1,3-butadiene:

Reproductive toxicity - Assessment : Based on available data, the classification criteria are not met.

STOT - single exposure

Based on available data, the classification criteria are not met.

Components:

1,3-butadiene:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Components:

1,3-butadiene:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Based on available data, the classification criteria are not met.

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Components:

1,3-butadiene:

Not applicable

11.2 Information on other hazards

Endocrine disrupting properties

Based on available data, the classification criteria are not met.

Product:

Assessment : 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

Components:

1,3-butadiene:

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): 43 mg/l Exposure time: 96 HOURS Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.
Toxicity to daphnia and other aquatic invertebrates	: LC50 (Daphnia magna (Water flea)): 24 mg/l Exposure time: 48 HOURS Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.
Toxicity to algae/aquatic plants	: EC50 (green algae): 11 mg/l Exposure time: 96 HOURS Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.
Toxicity to fish (Chronic toxicity)	: NOELR: 4.4 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout) Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.
Toxicity to daphnia and other aquatic invertebrates (Chronic)	: EC50: 2.2 mg/l Exposure time: 16 d

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ic toxicity)

Species: Daphnia (water flea)

Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

Chronic aquatic toxicity : Not classified

12.2 Persistence and degradability

Components:

1,3-butadiene:

Biodegradability : Result: Readily biodegradable.

Stability in water : Remarks: no data available

Photodegradation : Remarks: no data available

12.3 Bioaccumulative potential

Components:

1,3-butadiene:

Bioaccumulation : Bioconcentration factor (BCF): 9.55
Method: Calculation method
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 1.99
Remarks: Based on data from similar materials

12.4 Mobility in soil

Components:

1,3-butadiene:

Stability in soil : Remarks: no data available

12.5 Results of PBT and vPvB assessment

Product:

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

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12.6 Endocrine disrupting properties

Product:

Assessment : 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

Components:

1,3-butadiene:

Additional ecological information : no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Preferred disposal for this volatile, flammable product is through combustion.
Use flare if pressure warrants.
Assure emissions comply with applicable regulations.
Contaminated product, soil, water, and empty containers may be hazardous wastes due to possible presence of flammable gases.
The product should not be allowed to enter drains, water courses or the soil.

Comply with applicable local, state or international regulations concerning solid or hazardous waste disposal and/or container disposal.

SECTION 14: Transport information

14.1 UN number or ID number

ADN	: UN 1010
ADR	: UN 1010
RID	: UN 1010
IMDG	: UN 1010

14.2 UN proper shipping name

ADN	: BUTADIENES AND HYDROCARBON MIXTURES STABILIZED
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ADR	:	BUTADIENES AND HYDROCARBON MIXTURES STABILIZED
RID	:	BUTADIENES AND HYDROCARBON MIXTURES STABILIZED
IMDG	:	

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 2	2.1, Unst., CMR
ADR	: 2	2.1
RID	: 2	2.1
IMDG	: 2.1	

14.4 Packing group

ADN	
Packing group	: Not assigned by regulation
Classification Code	: 2F
Labels	: 2.1 (Unst., CMR)

ADR	
Packing group	: Not assigned by regulation
Classification Code	: 2F
Hazard Identification Number	: 239
Labels	: 2.1
Tunnel restriction code	: B/D

RID	
Packing group	: Not assigned by regulation
Classification Code	: 2F
Hazard Identification Number	: 239
Labels	: 2.1

IMDG	
Packing group	: Not assigned by regulation
Labels	: 2.1
EmS Code	: F-D, S-U

14.5 Environmental hazards

ADN	
Environmentally hazardous	: no

ADR	
Environmentally hazardous	: no

RID	
Environmentally hazardous	: no

IMDG	
Marine pollutant	: no

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14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
Number on list 28: 1,3-butadiene, n-Butane, Isobutane

Number on list 29: 1,3-butadiene, n-Butane, Isobutane

Number on list 40

Number on list 75
If you intend to use this product as tattoo ink, please contact your vendor.

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

Water hazard class (Germany) : WGK 3 highly hazardous to water
Classification according to AwSV, Annex 1 (5.2)

TA Luft List (Germany) : 5.2.7.1.1: Carcinogenic substance:
Class 3: 48 % 1,3-butadiene

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Volatile organic compounds (VOC) content: 78 %

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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The components of this product are reported in the following inventories:

TCSI	: On the inventory, or in compliance with the inventory
TSCA	: All substances listed as active on the TSCA inventory
AIIC	: On the inventory, or in compliance with the inventory
DSL	: All components of this product are on the Canadian DSL
ENCS	: Not in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
REACH	: If the product has been purchased from Rotterdam Olefins & Polyolefins B.V., we confirm that the chemical substances in this product have been registered under REACH, in accordance with the deadlines set forth in REACH. (Regulation (EU) No. 1907/2006).
NZIoC	: Not in compliance with the inventory
TECI	: Not in compliance with the inventory
CH BAGREG	: Not in compliance with the inventory
MXINSQ	: Not in compliance with the inventory
NCI	: Not in compliance with the inventory
UKREACH	: Not in compliance with the inventory
KKDIK	: Not in compliance with the inventory

15.2 Chemical safety assessment

SECTION 16: Other information

Full text of H-Statements

Full text of other abbreviations

Carc.	: Carcinogenicity
Flam. Gas	: Flammable gases
Muta.	: Germ cell mutagenicity
Press. Gas	: Gases under pressure
2004/37/EC	: Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens

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	at work
DE DFG MAK	: Germany. MAK BAT Annex IIa
DE TRGS 900	: Germany. TRGS 900 - Occupational exposure limit values.
DE TRGS 910	: Germany. TRGS 910 - Substance-specific acceptable and tolerable concentrations and equivalence values for carcinogenic hazardous substances.
TRGS 910	: Germany. TRGS 910 - Substance-specific acceptable and tolerable concentrations and equivalence values for carcinogenic hazardous substances
2004/37/EC / TWA	: Long term exposure limit
DE DFG MAK / MAK	: MAK value
DE TRGS 900 / AGW	: Time Weighted Average
DE TRGS 910 / Acceptable concentration	: Acceptable concentration
DE TRGS 910 / Tolerable concentration	: Tolerable concentration

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECL - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

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