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

RAFFINATE 2

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05/22/2026	BEN263	Date of first issue: 05/22/2026

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

1.1 Product identifier

Trade name	:	RAFFINATE 2
Substance name	:	Hydrocarbons, C4, steam-cracker distillate
Substance No.	:	295-405-4 (EINECS)

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

Identified uses	:	Manufacture; Distribution of substance; Use as intermediate; Formulation of preparations; Uses in Coatings; Use as a fuel; Polymer production; Polymer processing; Use in laboratories

1.3 Details of the supplier of the safety data sheet

Company	**Registration number**	**Telephone**
Basell Polyoléfines France SAS Chemin départemental 54 B.P. 14 13131 Berre l'Etang Cedex France	01-2119474204-43-0006	+33 (0) 4 42 74 42 74
Raffinerie de Berre		

E-mail address : RegulatoryComplianceROP@velogy.com
Responsible/issuing person

1.4 Emergency telephone number

Basell Polyoléfines France SAS +33 (0) 4 42 74 42 74

Poison Center:
ORFILA (INRS)
FR: + 33 (0)1 45 42 59 59
24 hours all days

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.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

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.
H411	Toxic to aquatic life with long lasting effects.

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.
P273	Avoid release to the environment.
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.
P391	Collect spillage.

Storage:

P410 + P403	Protect from sunlight. Store in a well-ventilated place.

Additional Labelling

Restricted to professional users.

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, steam-cracker distillate

EC-No. : 295-405-4 (EINECS)

Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)	M-Factor, SCL, ATE
Hydrocarbons, C4, steam-cracker distillate	92045-23-3 295-405-4	>= 90 - <= 100	
1,3-butadiene	106-99-0 203-450-8	>= 0.1 - < 1	

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : This product is of low acute toxicity.
May cause cancer by inhalation.
Product is genotoxic.
Contact with liquid may cause frostbite.
Always observe self-protection methods
Move out of dangerous area.
Remove contaminated clothes except in the case of frostbite.
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Show this material safety data sheet to the doctor in attendance.

If inhaled : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Do not leave the victim unattended.
Keep patient warm and at rest.
Immediately seek medical attention.
If breathing is difficult, give oxygen.
If unconscious, place in recovery position and seek medical

advice.
In the event of unconsciousness, apnea or cardiac arrest (no pulse), apply cardiopulmonary resuscitation.

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

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.

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

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.
Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.
Treat frost-bitten areas as needed.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : SMALL FIRE: Use dry chemical, CO2, water spray or regular foam. LARGE FIRE: Use water spray, water fog or regular foam. Do not use straight streams.

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

5.2 Special hazards arising from the substance or mixture

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.
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.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Thermal decomposition may produce oxides of carbon and other toxic gases and liberate heat and pressure.
Reacts with air to form peroxides.

5.3 Advice for firefighters

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

Further information : Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Eliminate all sources of ignition.
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.

6.2 Environmental precautions

Environmental precautions : An authoritative evaluation of environmental exposure and risk indicates that no special risk management practices are needed to control environmental release.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local

/ national regulations (see section 13).
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 storage areas unless 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. Check atmosphere for explosiveness and oxygen deficiencies. Wear recommended personal protective equipment. Handle empty containers with care; vapor residue may be flammable/explosive. 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. Do not enter areas where used or stored until adequately ventilated.
Advice on protection against fire and explosion	:	Take precautionary measures against static discharge.
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 per-

formed, 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.

Fire-fighting class : Extremely flammable gas.

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.

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			
		VME	1 ppm 2.2 mg/m3	FR VLE
	Further information: Carcinogenic category 1A - Carcinogenic to humans, Mutagenic category 1B - Probably mutagenic to humans, Regulatory binding exposure limits			

8.2 Exposure controls

Engineering measures

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

Personal protective equipment

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

Colour : colorless

Odour : hydrocarbon-like

Odour Threshold : Not applicable

Melting point/range : -108.9 °C

Freezing point no data available

Boiling point/boiling range : -4.41 °C

Flammability	:	Extremely flammable gas.
Upper explosion limit / Upper flammability limit	:	10 vol%
Lower explosion limit / Lower flammability limit	:	1.6 vol%
Flash point	:	-30 - 18 °C
Decomposition temperature	:	Carbon dioxide, carbon monoxide, smoke, fumes and un-burned hydrocarbons.
pH	:	Not applicable.
Viscosity		
Viscosity, dynamic	:	Not applicable (gas).
Viscosity, kinematic	:	Not applicable (gas).
Solubility(ies)		
Water solubility	:	0.735 g/l (20 °C)
Partition coefficient: n-octanol/water	:	log Pow: 1.99
Vapour pressure	:	< 11 BAR (70 °C)
		2,550 hPa (21.85 °C)
Density	:	> 525 kg/m3 (50 °C)

9.2 Other information

Explosives	:	Not applicable.
		(No chemical groups associated with explosive properties.)

Oxidizing properties : Not considered an oxidizing agent.

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Not expected to occur.

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.

10.6 Hazardous decomposition products

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:

Hydrocarbons, C4, steam-cracker distillate:

Acute oral toxicity : Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : Assessment: The substance or mixture has no acute dermal toxicity

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:

Hydrocarbons, C4, steam-cracker distillate:

Assessment : No skin irritation

1,3-butadiene:

Assessment : No skin irritation

Serious eye damage/eye irritation

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

Components:

Hydrocarbons, C4, steam-cracker distillate:

Assessment : No eye irritation

1,3-butadiene:

Assessment : No eye irritation

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:

Hydrocarbons, C4, steam-cracker distillate:

Assessment : Did not cause sensitization on laboratory animals.

1,3-butadiene:

Assessment : Did not cause sensitization on laboratory animals.

Germ cell mutagenicity

May cause genetic defects.

Components:

Hydrocarbons, C4, steam-cracker distillate:

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

1,3-butadiene:

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

Carcinogenicity

May cause cancer.

Components:

Hydrocarbons, C4, steam-cracker distillate:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

1,3-butadiene:

Carcinogenicity - Assessment : Positive evidence from human epidemiological studies

Reproductive toxicity

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

Components:

Hydrocarbons, C4, steam-cracker distillate:

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

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:

Hydrocarbons, C4, steam-cracker distillate:

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

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:

Hydrocarbons, C4, steam-cracker distillate:

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

1,3-butadiene:

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

Aspiration toxicity

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

Components:

Hydrocarbons, C4, steam-cracker distillate:

No aspiration toxicity classification

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:

Hydrocarbons, C4, steam-cracker distillate:

Toxicity to fish : LC50 (fish.): 19 - 27.9 mg/l
Exposure time: 96 HOURS
Remarks: Based on Quantitative structure-activity relationship (QSAR) estimation.

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia (water flea)): 11 mg/l
Exposure time: 48 HOURS

Remarks: Based on Quantitative structure-activity relationship (QSAR) estimation.

Toxicity to algae/aquatic plants : EC50 (algae): 7.7 mg/l
Exposure time: 96 HOURS
Remarks: Based on Quantitative structure-activity relationship (QSAR) estimation.

EC50 (algae): 8.4 mg/l
Exposure time: 96 HOURS
Remarks: Based on Quantitative structure-activity relationship (QSAR) estimation.

EC50 (algae): 8.6 mg/l
Exposure time: 96 HOURS
Remarks: Based on Quantitative structure-activity relationship (QSAR) estimation.

Toxicity to microorganisms :
Remarks: no data available

Toxicity to fish (Chronic toxicity) : Remarks: not required
In accordance with column 2 of REACH Annex IX

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: not required
In accordance with column 2 of REACH Annex IX

Ecotoxicology Assessment

Acute aquatic toxicity : Based on available data, the classification criteria are not met.

Chronic aquatic toxicity : When released into the environment, this material will volatilize rapidly.

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 toxicity)	:	EC50: 2.2 mg/l Exposure time: 16 d 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:

Hydrocarbons, C4, steam-cracker distillate:

Biodegradability	:	Remarks: Readily biodegradable. Not expected to undergo hydrolysis.

1,3-butadiene:

Biodegradability	:	Result: Readily biodegradable.
Stability in water	:	Remarks: no data available
Photodegradation	:	Remarks: no data available

12.3 Bioaccumulative potential

Components:

Hydrocarbons, C4, steam-cracker distillate:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely.

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

12.4 Mobility in soil

Components:

Hydrocarbons, C4, steam-cracker distillate:

Mobility : Remarks: Not expected to adsorb to soil or sediment due to the low log Kow<3, After release, disperses into the air.

Distribution among environmental compartments : Remarks: The product evaporates readily.

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.

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:

Hydrocarbons, C4, steam-cracker distillate:

Additional ecological information : No additional information available.

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.
Dispose of in accordance with local regulations.
Contaminated product, soil, water, container residues and spill cleanup materials may be hazardous wastes.
Proper grounding procedures to avoid static electricity should be followed.
The product should not be allowed to enter drains, water courses or the soil.

SECTION 14: Transport information

14.1 UN number or ID number

ADN	:	UN 1965
ADR	:	UN 1965
RID	:	UN 1965
IMDG	:	UN 1965

14.2 UN proper shipping name

ADN	:	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (MIXTURE A)
ADR	:	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (MIXTURE A)
RID	:	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (MIXTURE A)
IMDG	:	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (ISOBUTYLENE, 1-BUTENE)

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADN	:	2	2.1, CMR
ADR	:	2	2.1
RID	:	2	2.1, 13
IMDG	:	2.1	

14.4 Packing group

ADN

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

ADR

Packing group	:	Not assigned by regulation
Classification Code	:	2F
Hazard Identification Number	:	23
Labels	:	2.1
Tunnel restriction code	:	B/D

RID

Packing group	:	Not assigned by regulation
Classification Code	:	2F
Hazard Identification Number	:	23
Labels	:	2.1 (13)

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

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: Hydrocarbons, C4, steam-cracker distillate, 1,3-butadiene Number on list 29: Hydrocarbons, C4, steam-cracker distillate, 1,3-butadiene

		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
REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59).	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable

Occupational Illnesses (R-461-3, France)	:	99
Reinforced medical supervision (R4624-18)	:	This product requires a reinforced medical supervision under Article R4624-18 (Labour Code)
Installations classified for the protection of the environment (Environment Code R511-9)	:	4310, 4511
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 1 % Volatile CMR compounds: 1 %

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

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

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

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory

DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. Hydrocarbons, C4, steam-cracker distillate
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	:	Not in compliance with the inventory
REACH	:	If the product has been purchased from any company of the LyondellBasell group of companies registered in the European Union, 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). For more information, please contact reach@lyondellbasell.com.
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

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Full text of other abbreviations

2004/37/EC	:	Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
FR VLE	:	France. Occupational Exposure Limits
2004/37/EC / TWA	:	Long term exposure limit
FR VLE / VME	:	Time Weighted Average

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; TECI - 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

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.

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