

SAFETY DATA SHEET



Product name: Piperylene
Revision date: 11/08/2021
Initial preparation date: 10/18/2019

Compiled according to GB/T 16483, GB/T 17519
SDS Nr: P2021110201
Version: 2.0

SECTION 1 Chemical product and company identification

Product Name : Piperylene
Chemical name (English name) : Hydrocarbons, C5-rich, dicyclopentadiene-containing
Product code : P510
Name of company : Braskem S. A.
Address : Rua Eteno, 1561, Polo Petroquímico de Camaçari,
Camaçari - BA - Brasil
Zip code : 42810-000
Tel. : (55 71) 3413-1111
Emergency number : 1-703-741-5970
Recommended use : Product for industrial use only

SECTION 2 Hazards identification

Emergency overview

Highly flammable liquid and vapour. Harmful if swallowed or if inhaled. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

GHS classification

Physical hazards : Flammable liquids, Category 2
Health hazards : Acute toxicity (Oral), Category 4
: Acute toxicity (Inhalation), Category 4
: Skin corrosion/irritation, Category 2
: Serious eye damage/eye irritation, Category 2
: Germ cell mutagenicity, Category 1B
: Carcinogenicity, Category 1B
: Reproductive toxicity, Category 2
: Specific target organ toxicity - Single exposure,
Category 3, Narcosis
: Specific target organ toxicity - Single exposure,
Category 3, Respiratory tract irritation
: Specific target organ toxicity - Repeated exposure,
Category 2

Environmental hazards : Aspiration hazard, Category 1
: Hazardous to the aquatic environment - Acute hazard, Category 1
: Hazardous to the aquatic environment - Chronic hazard, Category 1

Other hazards not mentioned above are Not applicable or No data is available.

Label elements

Hazard pictograms (GHS CN) :



Signal word (GHS CN) :

Danger.

Hazard statements (GHS CN) :

H225 - Highly flammable liquid and vapour
H302+H332 - Harmful if swallowed or if inhaled
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H340 - May cause genetic defects
H350 - May cause cancer
H361 - Suspected of damaging fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (GHS CN)

Prevention
precautionary
statements :

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.

- P270 - Do not eat, drink or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- Response Precautionary Statements : P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
- P302+P352 - IF ON SKIN: Wash with plenty of water.
- P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 - IF exposed or concerned: Get medical advice/attention.
- P312 - Call a POISON CENTER or doctor if you feel unwell.
- P314 - Get medical advice/attention if you feel unwell.
- P321 - Specific treatment (see supplemental first aid instruction on this label).
- P330 - Rinse mouth.
- P331 - Do NOT induce vomiting.
- P332+P313 - If skin irritation occurs: Get medical advice/attention.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P362+P364 - Take off contaminated clothing and wash it before reuse.
- P370+P378 - In case of fire: Use media other than water to extinguish.
- P391 - Collect spillage.
- Storage precautionary statements : P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P403+P235 - Store in a well-ventilated place. Keep cool.
- P405 - Store locked up.
- Disposal precautionary statements : P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Physical and chemical hazards

Highly flammable liquid and vapour

Health hazards

Harmful if swallowed or if inhaled

May be fatal if swallowed and enters airways

Causes skin irritation

Causes serious eye irritation

May cause respiratory irritation

May cause drowsiness or dizziness

May cause genetic defects

May cause cancer

Suspected of damaging fertility or the unborn child

May cause damage to organs through prolonged or repeated exposure

Symptoms/effects : May cause genetic defects, May cause cancer, Suspected of damaging fertility or the unborn child.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : Harmful if swallowed, Ingestion may cause nausea, vomiting and diarrhea, May result in aspiration into the lungs, causing chemical pneumonia, May be fatal if swallowed and enters airways.

Symptoms/effects after inhalation : Harmful if inhaled, May cause drowsiness or dizziness, May cause respiratory irritation, Overexposure to vapours may result in cough

Symptoms/effects after skin contact : Causes skin irritation.

Environmental hazards

Very toxic to aquatic life with long lasting effects

Other hazards

Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level

Burning liquid may float on water

May spread fire

Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level

Burning liquid may float on water

May spread fire

SECTION 3 Composition/information on ingredients

Product form : Substance.

Name	CAS-No.	Concentration (%)
Hydrocarbons, C5-rich, dicyclopentadiene-containing	102110-15-6	100

1,3-Pentadiene, (E)-	2004-70-8	33 - 38
1,3-Pentadiene, (Z)-	1574-41-0	20 - 23
Cyclopentene	142-29-0	14 - 17
Cyclopentane	287-92-3	8 - 11
2-Methyl-2-butene	513-35-9	>5
n-Pentane	109-66-0	< 5
Cyclopentadiene	542-92-7	0 - 5
Dicyclopentadiene	77-73-6	0 - 4
hydrocarbonates	Not available	< 2
1,3-Butadiene, 2-methyl-	78-79-5	< 1

SECTION 4 First aid measures

Emergency

- First-aid measures general : Never give anything by mouth to an unconscious person.
If you feel unwell, seek medical advice (show the label where possible)
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
If not breathing, give artificial respiration.
Do not apply mouth-to-mouth resuscitation.
Get medical advice/attention if you feel unwell.
- First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.
Immediately rinse with plenty of water (for at least 15 minutes).
Wash contaminated clothing before reuse.
Get medical advice if skin irritation persists
- First-aid measures after eye contact : Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum).
Avoid any direct contact with the product.
Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.
Do not induce vomiting.
If swallowed, rinse mouth with water (only if the person is conscious).

Keep victim warm and rested.
Seek immediate medical advice

Most Important Symptoms/Effects

Symptoms/effects : May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : Harmful if swallowed.
Ingestion may cause nausea, vomiting and diarrhea
May result in aspiration into the lungs, causing chemical pneumonia
May be fatal if swallowed and enters airways.

Symptoms/effects after inhalation : Harmful if inhaled.
May cause drowsiness or dizziness.
May cause respiratory irritation.
Overexposure to vapours may result in cough

Symptoms/effects after skin contact : Causes skin irritation.

Personal Protection in First Aid and Measures

No additional information available

Notes for the doctor

Note to physician : : Treat symptomatically

SECTION 5 Fire fighting measures

Extinguishing media

Suitable extinguishing media : Carbon dioxide (CO₂), dry chemical powder, foam
Foam
Dry powder
Carbon dioxide
Sand

Unsuitable extinguishing media : Do not use water jet
Do not use a heavy water stream

Special hazard

Fire hazard : Highly flammable liquid and vapour.
Material can accumulate some static charge during transfer
May mass explode in fire.
Vapours are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapours
Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases

Explosion hazard : May mass explode in fire.
May form flammable/explosive vapour-air mixture

Advice for firefighters and protective measures

Firefighting instructions : In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
In case of fire: stop leak if safe to do so.
Hose down area with water
Cool adjacent tanks / containers / drums with water jet
Use water spray or fog for cooling exposed containers
Exercise caution when fighting any chemical fire
Prevent fire fighting water from entering the environment

Protective equipment for firefighters : In case of hazardous fumes, wear autonomous breathing apparatus
Full protective flameproof clothing
Do not enter fire area without proper protective equipment, including respiratory protection

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures : Avoid ignition sources
Remove ignition sources
Use special care to avoid static electric charges
No open flames. No smoking

Personal Precautions, Protective Equipment and Emergency Procedures : No additional information available

For non-emergency personnel

Protective equipment : Complete protective clothing
For further information refer to section 8: "Exposure controls/personal protection"

Emergency procedures : Eliminate all ignition sources if safe to do so.
Do not drink, eat or smoke in the workplace
Impermeable protective equipment
Evacuate unnecessary personnel

For emergency responders

Protective equipment : Complete protective clothing
Do not enter fire area without proper protective equipment, including respiratory protection
Evacuate unnecessary personnel
Equip cleanup crew with proper protection
For further information refer to section 8: "Exposure controls/personal protection"

Emergency procedures : Eliminate all ignition sources if safe to do so.

Evacuate unnecessary personnel
Ventilate area
Impermeable protective equipment

Environmental precautions : Air
Use water curtains to contain the toxic clouds
In soil and sediments :
Take up liquid spill into absorbent material, e.g. :
sand, earth, vermiculite or powdered limestone
Absorb remaining liquid with sand or inert absorbent
and remove to safe place
Water :
Containment as appropriate
Prevent entry to sewers and public waters
Notify authorities if liquid enters sewers or public
waters
Avoid release to the environment.

Methods and Equipment for Containment and Cleaning up

Methods for cleaning : No additional information available

For containment : Clean up any spills as soon as possible, using an
absorbent material to collect it
Stop leak without risks if possible
Keep away from sources of ignition - No smoking
Wear recommended personal protective equipment
Do not touch spilled material
Evacuate unnecessary personnel

Prevention Measures for Secondary Accidents

Prevention Measures for Secondary Accidents : No additional information available

SECTION 7 Handling and storage

Handling

Precautions for safe handling : Obtain special instructions before use.
Do not handle until all safety precautions have been
read and understood.
Avoid ignition sources
Product can accumulate electrostatic charges that may
cause fire by electrical discharges
Use only non-sparking tools.
Use grounded electrical/mechanical equipment
Spilled product must never be returned to the original
container for recycling
Provide good ventilation in process area to prevent
formation of vapour

	No open flames. No smoking Wash contaminated clothing before reuse.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work Do not eat, drink or smoke when using this product.
Local and general ventilation	: No additional information available
Additional hazards when processed	: Handle empty containers with care because residual vapours are flammable
Storage	
Storage conditions	: Keep away from open flames, hot surfaces and sources of ignition Store in dry, cool, well-ventilated area At room temperature the product is neither an irritant nor gives off hazardous vapours Use only non-sparking tools. Keep in fireproof place Keep container tightly closed.
Technical measures	: Keep container closed when not in use Keep away from sources of ignition Use only in well ventilated areas Proper grounding procedures to avoid static electricity should be followed Ground/bond container and receiving equipment. Use explosion-proof electrical equipment.
Material used in packaging/containers	: No additional information available
Incompatible materials	: Strong oxidizing agents. Halogens. Strong acids and oxidants. Reducing agents. Certain plastics, rubbers and coatings. Strong bases.
Storage area	: Store in dry, cool, well-ventilated area Keep away from sources of ignition Keep away from heat and direct sunlight
Packaging materials	: Storage in steel recommended

SECTION 8 Exposure controls / Personal protection equipment

Occupational Exposure Limits

Dicyclopentadiene (77-73-6)	
China - Occupational Exposure Limits	
Local name	二聚环戊二烯 # Dicyclopentadiene

Dicyclopentadiene (77-73-6)	
OEL PC-TWA	25 mg/m ³
Catalogue of Occupational Hazard Factors	Category 3 - Chemicals
Regulatory reference	GBZ 2.1-2019

n-Pentane (109-66-0)	
China - Occupational Exposure Limits	
Local name	戊烷 (全部异构体) # Pentane (all isomers)
OEL PC-TWA	500 mg/m ³
OEL PC-STEL	1000 mg/m ³
Catalogue of Occupational Hazard Factors	Category 3 - Chemicals
Regulatory reference	GBZ 2.1-2019

Biological limit values

No additional information available

Monitoring methods

No additional information available

Appropriate engineering controls : Mechanical ventilation is recommended
Explosion-free electrical equipment and lighting with earth

Personal protective equipment

Other information : Do not eat, drink or smoke during use

Hand protection : Wear Protective gloves.
VITON gloves
Protective gloves made of PVC
Do not use : Butyl rubber gloves

Eye protection : Full face piece respirator
Chemical goggles or safety glasses

Skin and body protection : Use chemically protective clothing
Wear suitable protective clothing

Respiratory protection : Wear suitable respiratory equipment
Use self-contained breathing apparatus
[In case of inadequate ventilation] wear respiratory protection.

SECTION 9 Physical and chemical properties

Physical state : Liquid
Appearance : No data available
Colour : Colourless
Odour : Hydrocarbon-like

pH	: Not applicable
Melting point	: Not applicable
Freezing point	: -141 - -87.5 ° C Information refers to cis-1,3-pentadiene and trans-1,3-pentadiene
Boiling point	: 42 - 44 ° C Information refers to cis-1,3-pentadiene and trans-1,3-pentadiene
Flash point	: -29 - -28 ° C (closed cup) Information refers to cis-1,3-pentadiene and trans-1,3-pentadiene
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: 405 mm Hg (25° C)
Relative vapour density at 20 ° C	: 2.35
Density	: 0.676 g/m ³ (20° C)
Solubility	: No data available
Solubility in water	: 690 mg/l
Solubility in ethanol	: Miscible
Solubility in ether	: Miscible
Solubility in acetone	: Miscible
Partition coefficient n-octanol/water (Log Pow)	: 2.44
Explosive limits (vol %)	: 2 - 8.3 vol %
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available
Radioactive	: No

SECTION 10 Stability and reactivity

Reactivity	: No dangerous reactions known under normal conditions of use
Chemical stability	: Stable at room temperature. May polymerize on exposure to temperature rise. Highly flammable liquid and vapour. Attacks some forms of plastics, rubber, and coatings. May form flammable/explosive vapour-air mixture
Possibility of hazardous reactions	: Strong oxidizing agents Halogens strong oxidants and strong acids Reducing agents Attacks some forms of plastics, rubber, and coatings On burning: release of carbon monoxide - carbon dioxide lead

Conditions to avoid	:	No flames, no sparks. Eliminate all sources of ignition. Minimize exposure to air. Direct sunlight. Extremely high or low temperatures. Open flame
Incompatible materials	:	Strong oxidizing agents Halogens Strong acids and oxidants Certain plastics, rubbers and coatings Reducing agents Strong bases
Hazardous decomposition products	:	On burning: release of carbon monoxide - carbon dioxide fume May release flammable gases Explosive when mixed with oxidizing substances
Other properties	:	No additional information available

SECTION 11 Toxicological information

Acute toxicity

Acute toxicity (oral)	:	Harmful if swallowed.
Acute toxicity (dermal)	:	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	:	Harmful if inhaled.

Cyclopentene	
LD50 oral rat	2140 µl/kg

2-Methyl-2-butene	
LD50 oral rat	700 - 2600 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (ppm)	> 61000 ppm/4h

Cyclopentane	
LD50 oral rat	11400 mg/kg

Cyclopentadiene	
LD50 oral rat	113 mg/kg
LD50 dermal rabbit	430 mg/kg
LC50 inhalation rat (mg/l)	39 mg/l (Exposure time: 1 h)

Dicyclopentadiene	
LD50 oral rat	346.5 mg/kg
LD50 dermal rabbit	4380 mg/kg
LC50 inhalation rat (ppm)	1000 ppm/4h

n-Pentane	
LD50 oral rat	> 2000 mg/kg

LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (mg/l)	364 g/m ³ (Exposure time: 4 h)
Isoprene	
LD50 oral rat	2043 mg/kg
LD50 dermal rat	> 1 ml/kg
LC50 inhalation rat (mg/l)	180 mg/l/4h

Skin corrosion/irritation

Skin corrosion/irritation : Causes skin irritation.
pH : Not applicable

Serious eye damage/irritation

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitisation

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity

Germ cell mutagenicity : May cause genetic defects.

Carcinogenicity

Carcinogenicity : May cause cancer.

1,3-Butadiene, 2-methyl-	
IARC group	2B - Possibly carcinogenic to humans
National Toxicity Program (NTP) Status	Reasonably anticipated to be Human Carcinogen Evidence of Carcinogenicity

Reproductive toxicity

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

STOT-single exposure

STOT-single exposure : May cause drowsiness or dizziness. May cause respiratory irritation.

STOT-repeated exposure

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

Aspiration hazard : May be fatal if swallowed and enters airways.

SECTION 12 Ecological information

Ecotoxicity

- Ecology - general : Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
- Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.
- Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects.

Dicyclopentadiene	
LC50 fish 1	11.5 - 17.6 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC50 fish 2	23 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
EC50 Daphnia 1	11 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 96h algae (1)	> 100 mg/l (Species: Pseudokirchneriella subcapitata)

2-Methyl-2-butene	
LC50 fish 1	4.99 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
EC50 Daphnia 1	3 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Cyclopentane	
EC50 Daphnia 1	10.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)

n-Pentane	
LC50 fish 1	9.87 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
LC50 fish 2	11.59 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	9.74 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Isoprene	
LC50 fish 1	32.5 - 50.15 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC50 fish 2	58.75 - 95.32 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	140 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 96h algae (1)	> 1000 mg/l (Species: Scenedesmus quadricauda)

Persistence and degradability

No additional information available

Bioaccumulative potential

Hydrocarbons, C5-rich, dicyclopentadiene-containing	
Bioaccumulative potential	Based on the n-octanol/water partition coefficient accumulation in organisms is not expected
Log Pow	2.44

Dicyclopentadiene	
BCF fish 1	53
Log Pow	2.89

2-Methyl-2-butene	
BCF fish 1	(low potential to bioaccumulate)

Cyclopentane	
Log Pow	2.05

n-Pentane	
Log Pow	3.39

Isoprene	
BCF fish 1	(no bioaccumulation expected)
Log Pow	3.2 - 4.5 (at 20 ° C)

Mobility in soil

Piperylene	
Ecology - soil	Based on the n-octanol/water partition coefficient accumulation in organisms is not expected
Partition coefficient n-octanol/water (Log Pow)	2.44

Cyclopentane	
Partition coefficient n-octanol/water (Log Pow)	2.05

Dicyclopentadiene	
Partition coefficient n-octanol/water (Log Pow)	2.89

n-Pentane	
Partition coefficient n-octanol/water (Log Pow)	3.39

1,3-Butadiene, 2-methyl-	
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Partition coefficient n-octanol/water (Log Pow)	3.2 - 4.5 (at 20 ° C)
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Other adverse effects

Classification procedure (Ozone) : No data available
Effect on the ozone layer : No additional information available
Other information : Avoid release to the environment.

Results of PBT and vPvB assessment

PBT : This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
vPvB : This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 13 Disposal considerations

Waste treatment methods : Can be incinerated according to local regulations, Dispose of contents/container in accordance with licensed collector's sorting instructions.
Contaminated container and packaging : No additional information available
Additional information : Do not re-use empty containers, Handle empty containers with care because residual vapours are flammable.
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations
Ecology - waste materials : Avoid release to the environment.
Hazardous waste due to toxicity

SECTION 14 Transport information

Overland transport (JT/T 617)	Transport by sea	Air transport
UN number		
3295	3295	3295
UN proper shipping name		
HYDROCARBONS, LIQUID, N. O. S.	HYDROCARBONS, LIQUID, N. O. S. (1,3-Pentadiene, (E)- ; 1,3-Pentadiene, (Z)- ; Cyclopentene)	Hydrocarbons, liquid, n.o.s. (1,3-Pentadiene, (E)- ; 1,3-Pentadiene, (Z)- ; Cyclopentene)
Transport document description		
UN 3295, HYDROCARBONS, LIQUID, N. O. S., Class 3, PG	UN 3295 HYDROCARBONS, LIQUID, N. O. S. (1,3-Pentadiene, (E)- ; 1,3-	UN 3295 Hydrocarbons, liquid, n.o.s. (1,3-Pentadiene, (E)- ; 1,3-

Overland transport (JT/T 617)	Transport by sea	Air transport
II, ENVIRONMENTALLY HAZARDOUS	Pentadiene, (Z)- ; Cyclopentene), 3, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	Pentadiene, (Z)- ; Cyclopentene), 3, II, ENVIRONMENTALLY HAZARDOUS
Transport hazard class(es)		
3	3	3
Packing group		
II.	II.	II.
Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes

Special transport precautions

Special transport precautions : Due to the characteristics of the product and the pressure and temperature conditions that can be reached during the road transport, it is recommended to transport in vehicles that meet the 27D classification defined in IMETRO Ordinance No. 473/2011 / Brazil

MFAG-No : 128

Overland transport (JT/T 617)

Classification code (JT/T 617) : F1.

Limited quantities (JT/T 617) : 1L.

Excepted quantities (JT/T 617) : E2.

Packing instructions (JT/T 617) : P001.

Mixed packing provisions (JT/T 617) : MP19.

Portable tank and bulk container instructions (JT/T 617) : T7.

Portable tank and bulk container special provisions (JT/T 617) : TP1, TP8, TP28.

Tank codes (JT/T 617) : L1. 5BN.
Vehicle for tank carriage (JT/T 617) : FL.
Transport category (JT/T 617) : 2.
Tunnel restriction code (JT/T 617) : D/E.
Special provisions for carriage - Operation (JT/T 617) : S2, S20.
Hazard identification number (JT/T 617) : 33.
Orange-coloured plate (JT/T 617) :



Transport by sea

Limited quantities (IMDG) : 1 L.
Excepted quantities (IMDG) : E2.
Packing instructions (IMDG) : P001.
IBC packing instructions (IMDG) : IBC02.
Tank instructions (IMDG) : T7.
Tank special provisions (IMDG) : TP1, TP8, TP28.
Stowage category (IMDG) : B.
Properties and observations (IMDG) : Immiscible with water.
MFAG-No : 128

Air transport

PCA Excepted quantities (IATA) : E2.
PCA Limited quantities (IATA) : Y341.
PCA limited quantity max net quantity (IATA) : 1L.
PCA packing instructions (IATA) : 353.
PCA max net quantity (IATA) : 5L.
CAO packing instructions (IATA) : 364.
CAO max net quantity (IATA) : 60L.
Special provisions (IATA) : A3, A324.
ERG code (IATA) : 3H.

SECTION 15 Regulatory information

New Chemical Substance Environmental Management Registration Measures (MEE Order 12 of 2020)

Inventory of Existing Chemical Substances in China (IECSC) : Contains listed substance(s)
Cyclopentene (CAS-No. 142-29-0)
Cyclopentane (CAS-No. 287-92-3)
2-Butene, 2-methyl- (CAS-No. 513-35-9)
Pentane (CAS-No. 109-66-0)
1,3-Butadiene, 2-methyl- (CAS-No. 78-79-5)

Regulations on the Safe Management of Hazardous Chemicals (Decree 591 of the State Council)

Catalogue of Hazardous Chemicals (2015) : Contains Hazardous Chemical(s)
Cyclopentene (CAS-No. 142-29-0)
Cyclopentane (CAS-No. 287-92-3)
2-Methyl-2-butene (CAS-No. 513-35-9)
Cyclopentadiene
n-Pentane (CAS-No. 109-66-0)
2-Methyl-1,3-butadiene (inhibited) (CAS-No. 78-79-5)
Dicyclopentadiene

Law of the People's Republic of China on the Prevention and Control of Occupational Diseases

Catalogue for Classification of Hazardous Factors of Occupational Diseases : Contains listed substance(s)
N-pentane (CAS-No. 109-66-0)

Other domestic regulatory lists

Dangerous Goods List (GB 12268-2012) : Contains listed substance(s)
CYCLOPENTENE (CAS-No. 142-29-0)
CYCLOPENTANE (CAS-No. 287-92-3)
2-Methyl-2-butene (CAS-No. 513-35-9)
ISOPRENE, STABILIZED (CAS-No. 78-79-5)

SECTION 16 Other information

Sources of Key data : Data arise from reference works and literature.

Abbreviations and acronyms

ACGIH ACGIH (American Conference of Government Industrial Hygienists)
CLP CLP - Classification, Labelling and Packaging
EC EC - European Community

EEC	EEC - European Economic Community
GHS	GHS - Globally Harmonised System
PVC	PVC (Polyvinyl chloride).
REACH	REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals
SDS	SDS - Safety Data Sheet

Other information : None

SDS CN (GB/T 17519-2013)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. It warns that the handling of any chemical substance requires the previous knowledge of its hazards for the user. It is up to the user of the product company providing this SDS to and promote the training of its employees about possible risks come upon of the product. The information contained herein is not absolute, but only general information on the use of the chemical and indication of safety and security measures.