

SAFETY DATA SHEET FOR CHEMICAL PRODUCTS



Product name: DCPD
Revision date: 10/16/2023
Initial preparation date: 11/11/2022

Compiled according to GB/T 16483, GB/T 17519
SDS Nr: P2023031004
Version: 2.0

SECTION 1 Chemical product and company identification

Chemical name (Chinese Name) : DCPD
Chemical name (English name) : 3a, 4, 7, 7a-tetrahydro-4, 7-methanoindene
CAS No. : 77-73-6
Product code : P455
Formula : C10H12
Synonyms : DCPD; Bicyclopentadiene; 1,3-Cyclopentadiene dimers; 3a, 4, 7, 7a-Tetrahydro-4, 7-methaneindene
Name of company : Braskem S. A.
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CEP: 42810-000, Brasil
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Emergency number(24h) : CHEMTREC:
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Recommended use : Polymer production

SECTION 2 Hazards identification

Emergency overview

Highly flammable liquid and vapour; Harmful if swallowed; May be fatal if swallowed and enters airways; May be harmful in contact with skin; Causes skin irritation; Causes serious eye irritation; Fatal if inhaled; May cause respiratory irritation; May cause genetic defects; May cause cancer; Suspected of damaging fertility or the unborn child; May cause damage to organs (central nervous system) through prolonged or repeated exposure; Very toxic to aquatic life; 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 (Dermal), Category 5
: Acute toxicity (Inhalation), Category 2
: Skin corrosion/irritation, Category 2
: Serious eye damage/eye irritation, Category 2
: Germ cell mutagenicity, Category 1B

EN (English)

- : Carcinogenicity, Category 1A
: Reproductive toxicity, Category 2
: Specific target organ toxicity - Single exposure, Category 3, Respiratory tract irritation
: Specific target organ toxicity - Repeated exposure, Category 2
: Aspiration hazard, Category 1
- Environmental hazards : Hazardous to the aquatic environment - Acute hazard, Category 1
: Hazardous to the aquatic environment - Chronic hazard, Category 2

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 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H313 - May be harmful in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H330 - Fatal if inhaled
H335 - May cause respiratory irritation
H340 - May cause genetic defects
H350 - May cause cancer
H361 - Suspected of damaging fertility or the unborn child
H373 - May cause damage to organs (central nervous system) through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H411 - 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.

| | |
|-----------------------------------|---|
| Response Precautionary Statements | : P243 - Take precautionary measures against static discharge. P260 - Do not breathe 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. P284 - [In case of inadequate ventilation] wear respiratory protection. 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. P310 - Immediately call a POISON CENTER or doctor. P312 - Call a POISON CENTER or doctor if you feel unwell. P314 - Get medical advice/attention if you feel unwell. P320 - Specific treatment is urgent (see supplemental first aid instruction on this label). 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

May be fatal if swallowed and enters airways

May be harmful in contact with skin

Causes skin irritation

Causes serious eye irritation

Fatal if inhaled

May cause respiratory irritation

May cause genetic defects

May cause cancer

Suspected of damaging fertility or the unborn child

May cause damage to organs (central nervous system) through prolonged or repeated exposure

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

Symptoms/effects after ingestion : Harmful if swallowed, Ingestion may cause nausea, vomiting and diarrhea

Symptoms/effects after inhalation : Fatal if inhaled, May cause respiratory irritation, Overexposure to vapours may result in cough, Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination

Symptoms/effects after skin contact : Causes skin irritation.

Environmental hazards

Very toxic to aquatic life

Toxic to aquatic life with long lasting effects

Other hazards

Handling this product may result in electrostatic accumulation. Use proper grounding procedures

Electrostatic charges may be generated during handling

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

Combustion produces toxic gases
Combustion produces irritating gases

SECTION 3 Composition/information on ingredients

Product form : Substance.
Substance type : Mono-constituent

| Name | CAS-No. | Concentration (%) |
|----------------------|-----------|-------------------|
| Dicyclopentadiene | 77-73-6 | ≥ 82 |
| 1,3-Pentadiene | 504-60-9 | 1.5 - 3.5 |
| 1,3-Pentadiene, (E)- | 2004-70-8 | 1 - 2 |
| cyclopentane | 287-92-3 | 0.8 - 1.5 |
| 1,3-Pentadiene, (Z)- | 1574-41-0 | ≤ 1.5 |
| Cyclopentene | 142-29-0 | 0.9 - 1.4 |
| Cyclopentadiene | 542-92-7 | 0.3 - 0.8 |
| 2-Methyl-2-butene | 513-35-9 | ≤ 0.4 |
| Benzene | 71-43-2 | ≤ 0.1 |

Comments : Contains inhibitor.

SECTION 4 First aid measures

Emergency

First-aid measures after inhalation : Remove victim to fresh air.
Seek medical attention immediately.
Do not apply mouth-to-mouth resuscitation.
If breathing stops, give artificial respiration

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.
Remove the victim away from contaminated area.
Seek immediate medical advice

First-aid measures after eye contact : In case of eye contact, immediately rinse with clean water for 10-15 minutes.
Get medical advice/attention.
Remove contact lenses, if present and easy to do.
Continue rinsing.

First-aid measures after ingestion : Do not induce vomiting.
If swallowed, rinse mouth with water (only if the person is conscious).
Keep victim warm and rested.
Never give anything by mouth to an unconscious person.
Seek immediate medical advice

Most Important Symptoms/Effects

- Symptoms/effects after eye contact : Causes serious eye irritation.
- Symptoms/effects after ingestion : Harmful if swallowed.
Ingestion may cause nausea, vomiting and diarrhea
- Symptoms/effects after inhalation : Fatal if inhaled.
May cause respiratory irritation.
Overexposure to vapours may result in cough
Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination
- 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 : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂)
- Unsuitable extinguishing media : Do not use water jet

Special hazard

- Fire hazard : Highly flammable liquid and vapour.
Remove ignition sources
Heavier than air, vapours may travel long distances along ground, ignite and flash back to source
May form explosive peroxides.
Combustion produces irritating gases
On combustion forms:
Carbon monoxide
- Explosion hazard : Flammable vapours can accumulate in head space of closed systems
May form flammable/explosive vapour-air mixture

Advice for firefighters and protective measures

- Firefighting instructions : Do not attempt to take action without suitable protective equipment
Hose down area with water
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.
Cool tanks/drums with water spray/remove them into safety

Protective equipment : Full protective flameproof clothing
for firefighters : Fight fire from safe distance and protected location
Wear a self contained breathing apparatus

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area.

For non-emergency personnel

Protective equipment : Wear suitable protective clothing, gloves and eye/face protection
For further information refer to section 8: "Exposure controls/personal protection"
Emergency procedures : Remove all sources of ignition
Stop leak if safe to do so.

For emergency responders

Protective equipment : Wear suitable protective clothing
For further information refer to section 8: "Exposure controls/personal protection"
Emergency procedures : Remove all sources of ignition
Stop leaks if it can be done without personal risk
Evacuate unnecessary personnel

Environmental precautions : Use water spray to disperse the vapours
Absorb remaining liquid with sand or inert absorbent and remove to safe place
Do not allow uncontrolled discharge of product into the environment
Notify authorities if product enters sewers or public waters

Methods and Equipment for Containment and Cleaning up

Methods for cleaning : Absorb remaining liquid with sand or inert absorbent and remove to safe place. Clean up any spills as soon as possible, using an absorbent material to collect it. Do not absorb in sawdust, paper, cloth or other combustible absorbents.
For containment : Soak up with inert absorbent material (for example sand, sawdust, a universal binder, silica gel)

Prevention Measures for Secondary Accidents

Prevention Measures for Secondary Accidents : No additional information available

SECTION 7 Handling and storage

Handling

Precautions for safe handling : Use only outdoors or in a well-ventilated area.
Avoid ignition sources
Use only non-sparking tools.

| | | |
|---------------------------------------|---|--|
| | | Use grounded electrical/mechanical equipment Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. |
| 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 in areas where product is used |
| Additional hazards when processed | : | Handling this product may result in electrostatic accumulation. Use proper grounding procedures |
| Storage | | |
| Storage conditions | : | Keep away from open flames, hot surfaces and sources of ignition Store in dry, cool, well-ventilated area Store at room temperature The product is not subject to polymerization during storage. To prevent further polymerization Dicyclopentadiene is inhibited with 4-tert-butylcatechol (TBC) |
| Technical measures | : | Keep container closed when not in use Keep away from sources of ignition |
| Material used in packaging/containers | : | No additional information available |
| Incompatible materials | : | Strong oxidizing agents. Reducing agents. Certain plastics, rubbers and coatings. Halogens. |
| Storage area | : | Keep away from sources of ignition |
| Packaging materials | : | Stainless steel Carbon steel Cylinders Drums |

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 |
| OEL PC-TWA | 25 mg/m ³ |
| Catalogue of Occupational Hazard Factors | Category 2 - Chemical Factors |
| Regulatory reference | GBZ 2.1-2019 |

| Benzene (71-43-2) | |
|--|---------------------------------------|
| China - Occupational Exposure Limits | |
| Local name | 苯 # Benzene |
| OEL PC-TWA | 3 mg/m ³ |
| OEL PC-STEL | 6 mg/m ³ |
| Chemical category | Skin notation, Carcinogenic to humans |
| OEL PC-TWA (Highly Toxic Goods) | 6 mg/m ³ |
| OEL PC-STEL (Highly Toxic Goods) | 10 mg/m ³ |
| Catalogue of Occupational Hazard Factors | Category 2 - Chemical Factors |
| Remark (CN) | 皮, G1 (对人致癌 (Carcinogenic to humans)) |
| Regulatory reference | GBZ 2.1-2019 |

Biological limit values

| Benzene (71-43-2) | |
|----------------------|---|
| China - BEL | |
| Local name | 苯 # Benzene |
| BEL | 47 µmol/mol Creatinine Parameter: S-Phenylmercapturic acid - Medium: urine - Sampling time: end of shift 100 µg/g creatinine Parameter: S-Phenylmercapturic acid - Medium: urine - Sampling time: end of shift 2.4 mmol/mol Creatinine Parameter: t,t-Muconic acid - Medium: urine - Sampling time: end of shift 3 mg/g creatinine Parameter: t,t-Muconic acid - Medium: urine - Sampling time: end of shift |
| Regulatory reference | GBZ 2.1-2019 |

Monitoring methods

No additional information available

Appropriate engineering controls : Ensure adequate ventilation
Mechanical ventilation is recommended
Use explosion-proof equipment

Personal protective equipment

Materials for protective clothing : Protective gloves made of PVC
Wear suitable protective clothing

Hand protection : Suitable material is Viton. Thickness min.: 0,7.
Usage possible for max. 80 min.
Don' t reuse again, next shift.
Be aware that the choice of suitable gloves has to be made after a full chemical risk assessment. E.g. temperatures higher than ambient temperature or mixed exposure needs consultation with the manufacturer.

| | |
|--------------------------|--|
| | For short time exposure risk (e.g. single splash) other material may be usable, also. Contact your local PPE supplier. |
| | Do not use : Butyl-rubber protective gloves |
| Eye protection | : Protective goggles |
| Skin and body protection | : Avoid contact with skin Avoid repeated or prolonged skin contact Remove contaminated clothing and shoes |
| Respiratory protection | : In case the concentration in workplace atmosphere is higher than max. allowed concentration, use full face mask with filter cartridge. Use self-contained breathing apparatus, if concentration is unknown or higher than max. allowed for used filter type. Take care of wear time limits, especially if worn together with protection coveralls and physically hard work. Stop work and leave area, immediately, if "chemical" smell of substance occurs in the filter mask! |

SECTION 9 Physical and chemical properties

| | |
|---|--|
| Physical state | : Liquid |
| Appearance | : Clear |
| Colour | : Slightly yellow |
| Odour | : Pungent |
| pH | : Not applicable |
| Melting point | : Not applicable |
| Freezing point | : No data available |
| Boiling point | : 49 ° C (120.2 ° F; ASTM D86) |
| Flash point | : -15 ° C (5 ° F; Closed cup; ASTM D 56) |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Vapour pressure | : 7 - 15 kPa (37.8 °C; 100.04 ° F) |
| Relative vapour density at 20° C | : No data available |
| Relative density | : 0.9584 - 0.9598 g/cm ³ |
| Density | : No data available |
| Solubility | : No data available |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Lower explosion limit | : No data available |
| Upper explosion limit | : No data available |
| Radioactive | : No |

SECTION 10 Stability and reactivity

| | |
|---|--|
| Reactivity | : Highly flammable liquid and vapour. Hazardous polymerization may occur if exposure to fire conditions. Can form explosive peroxides by prolonged contact with air. Attacks some forms of plastics, rubber, and coatings |
| Chemical stability | : Stable at ambient temperature and under normal conditions of use |
| Possibility of hazardous reactions | : Hazardous polymerization may occur if exposed to high temperature Can form explosive peroxides by prolonged contact with air |
| Conditions to avoid | : Avoid ignition sources. Strong oxidizing agents. Incompatible materials |
| Incompatible materials | : Strong oxidizing agents Strong reducing agents Certain plastics, rubbers and coatings Halogens |
| Hazardous decomposition products | : Carbon oxides (CO, CO ₂) Hydrocarbon substances with low molecular weight and their oxidation products Explosive decomposition on exposure to air: peroxidation resulting in increased fire or explosion risk |
| Other properties | : No additional information available |

SECTION 11 Toxicological information

Acute toxicity

| | |
|-----------------------------|--|
| Acute toxicity (oral) | : Harmful if swallowed. |
| Acute toxicity (dermal) | : May be harmful in contact with skin. |
| Acute toxicity (inhalation) | : Fatal if inhaled. |

| DICYCLOPENTADIENE | |
|-----------------------|--|
| LD50 dermal rat | > 2000 mg/kg |
| LC50 Inhalation - Rat | 1910 mg/m ³ (Exposure time: 6 h Source: ECHA_API) |
| Cyclopentadiene | |
| LC50 Inhalation - Rat | 39 mg/l |
| Benzene | |
| LD50 oral rat | > 2000 mg/kg |
| LD50 dermal rabbit | > 8200 mg/kg (Source: JAPAN_GHS) |
| LC50 Inhalation - Rat | 44.66 mg/l/4h |
| Cyclopentene | |
| LD50 oral rat | 2140 µl/kg (Source: NLM_CIP) |
| LD50 dermal rabbit | 1231 mg/kg (Source: ECHA_API) |

| | |
|-----------------------------|----------------------------------|
| LC50 Inhalation - Rat | > 22.9 mg/l/4h |
| cyclopentane | |
| LC50 Inhalation - Rat | > 25.3 mg/l/4h |
| 2-Methyl-2-butene | |
| LD50 oral rat | 700 mg/kg |
| LD50 dermal rat | > 2000 mg/kg (Source: OECD_SIDS) |
| LC50 Inhalation - Rat [ppm] | > 61000 ppm/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.

| | |
|--|--|
| Benzene | |
| IARC group | 1 - Carcinogenic to humans |
| National Toxicity Program (NTP) Status | Known Human Carcinogens Evidence of Carcinogenicity |

Reproductive toxicity

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

STOT-single exposure

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure

STOT-repeated exposure : May cause damage to organs (central nervous system) through prolonged or repeated exposure.

Aspiration hazard

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

SECTION 12 Ecological information

Ecotoxicity

Ecology - general : 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) : Toxic to aquatic life with long lasting effects.

| DICYCLOPENTADIENE | |
|-------------------|--|
| BCF - Fish [1] | 58.9 - 384 Cyprinus carpio (Common carp) |
| BCF - Fish [2] | 53 Lepomis macrochirus (Bluegill) |

| Benzene | |
|----------------------|--|
| LC50 - Fish [1] | 10.7 - 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA) |
| LC50 - Fish [2] | 5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through] Source: EPA) |
| EC50 - Crustacea [1] | 8.76 - 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| EC50 - Crustacea [2] | 10 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| NOEC chronic fish | 0.8 mg/l Test organisms (species): Pimephales promelas Duration: '32 d' |
| BCF - Fish [1] | 3.5 - 4.4 |

| 2-Methyl-2-butene | |
|----------------------|---|
| LC50 - Fish [1] | 4.99 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static] Source: ECHA) |
| EC50 - Crustacea [1] | 3 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| BCF - Fish [1] | (low potential to bioaccumulate) |

Persistence and degradability

| DICYCLOPENTADIENE | |
|-------------------------------|---------------------------|
| Persistence and degradability | Not readily biodegradable |

| Benzene | |
|-------------------------------|--------------------------------|
| Persistence and degradability | Readily biodegradable in water |

Bioaccumulative potential

| DICYCLOPENTADIENE | |
|---------------------------|--|
| Bioaccumulative potential | The product presents low bioaccumulative potential in aquatic organisms. |
| BCF - Fish [1] | See section 12.1 on ecotoxicology |
| BCF - Fish [2] | See section 12.1 on ecotoxicology |

| Benzene | |
|---|-----------------------------------|
| Bioaccumulative potential | not bioaccumulable |
| Bioconcentration factor (BCF REACH) | > 2000 |
| BCF - Fish [1] | See section 12.1 on ecotoxicology |
| Partition coefficient n-octanol/water (Log Pow) | 2.13 Source: ChemIDplus, IPCS |

| 2-Methyl-2-butene | |
|-------------------|--|
|-------------------|--|

| | |
|----------------|-----------------------------------|
| BCF - Fish [1] | See section 12.1 on ecotoxicology |
|----------------|-----------------------------------|

Mobility in soil

| DICYCLOPENTADIENE | |
|-------------------|--|
| Ecology - soil | The product presents low bioaccumulative potential in aquatic organisms. |

| Benzene | |
|---|-------------------------------|
| Ecology - soil | not bioaccumulable |
| Partition coefficient n-octanol/water (Log Pow) | 2.13 Source: ChemIDplus, IPCS |

Other adverse effects

Classification procedure (Ozone) : No data available

Effect on the ozone layer : No additional information available

SECTION 13 Disposal considerations

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Additional information : Dispose of contaminated material at an authorized site, Do not re-use empty containers.

Regional legislation (waste) : Dispose of at authorized waste collection point

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. (Dicyclopentadiene) | HYDROCARBONS, LIQUID, N. O. S. (Dicyclopentadiene) | Hydrocarbons, liquid, n. o. s. (Dicyclopentadiene) |
| Transport document description | | |
| UN 3295, HYDROCARBONS, LIQUID, N. O. S. (Dicyclopentadiene), Class 3, PG II, ENVIRONMENTALLY HAZARDOUS | UN 3295 HYDROCARBONS, LIQUID, N. O. S. (Dicyclopentadiene), 3, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS | UN 3295 Hydrocarbons, liquid, n. o. s. (Dicyclopentadiene), 3, II, ENVIRONMENTALLY HAZARDOUS |
| Transport hazard class(es) | | |
| 3 | 3 | 3 |

| Overland transport (JT/T 617) | Transport by sea | Air transport |
|-------------------------------------|---|-------------------------------------|
| | | |
| 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

| | |
|--|----------------------|
| MFAG-No | : 130 |
| 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, IBC02, R001. |
| 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) | : LGBF. |
| 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 : 130

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.

Special precautions for users

Refer to Section 7, Handling and Storage, for special precautions which a user needs to be aware of or is required to comply with regards to transport.

Additional information: This product may be transport under nitrogen blanketing

Other information

Transport in bulk according to Annex II of MARPOL and the IBC Code:

Product Name: DICYCLOPENTADIENE, RESIN GRADE, 81-89%

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)
Dicyclopentadiene (CAS-No. 77-73-6)
1,3-Pentadiene (CAS-No. 504-60-9)
1,3-Cyclopentadiene (CAS-No. 542-92-7)
Benzene (CAS-No. 71-43-2)
Cyclopentene (CAS-No. 142-29-0)
Cyclopentane (CAS-No. 287-92-3)
2-Butene, 2-methyl- (CAS-No. 513-35-9)

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

Council)

Catalogue of Hazardous Chemicals (2015) : Contains Hazardous Chemical(s)
Dicyclopentadiene (CAS-No. 77-73-6)
1,3-Pentadiene, inhibited (CAS-No. 504-60-9)
1,3-Cyclopentadiene (CAS-No. 542-92-7)
Benzene (CAS-No. 71-43-2)
Cyclopentene (CAS-No. 142-29-0)
Cyclopentane (CAS-No. 287-92-3)
2-Methyl-2-butene (CAS-No. 513-35-9)

Considered as Hazardous Chemical(s)

Identification of major hazard installations for dangerous chemicals (GB 18218) : Contains listed substance(s)
benzene (CAS-No. 71-43-2)

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)
Dicyclopentadiene (CAS-No. 77-73-6)
benzene (CAS-No. 71-43-2)

List of Highly Toxic Substances : Contains listed substance(s)
Benzene (CAS-No. 71-43-2)

Action Plan for Prevention and Control of Water Pollution

Catalogue of Prior Controlled Chemicals : Contains listed substance(s)
Benzene (CAS-No. 71-43-2)

Other domestic regulatory lists

Dangerous Goods List (GB 12268-2012) : Contains listed substance(s)
Dicyclopentadiene (CAS-No. 77-73-6)
BENZENE (CAS-No. 71-43-2)
CYCLOPENTENE (CAS-No. 142-29-0)
CYCLOPENTANE (CAS-No. 287-92-3)
2-Methyl-2-butene (CAS-No. 513-35-9)

Inventory of Hazardous Chemicals under Key Supervision : Contains listed substance(s)
Benzene (including benzol) (CAS-No. 71-43-2)

SECTION 16 Other information

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.