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

1.1. Product identifier

Product form	:	Substance
Trade name	:	DCPD
CAS No	:	77-73-6
Formula	:	C10H12
Synonyms	:	DCPD; Bicyclopentadiene; 1,3-Cyclopentadiene dimers; 3a,4,7,7a-Tetrahydro-4,7-methaneindene

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

Use of the substance/mixture	:	Polymer production

1.3. Details of the supplier of the safety data sheet

US office:
Braskem S.A.
5100 Westheimer Rd - Suite 495
Houston, 77056 - USA

Manufacturer:
Braskem S.A.
Rua Eteno, 1561, Polo Petroquímico de Camaçari
Camaçari, BA, CEP: 42810-000, Brasil

Contact Email	:	productsafety@braskem.com
Emergency Telephone Number (CHEMTREC)	:	1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 3	H226
Acute Tox. 4 (Oral)	H302
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
Muta. 1B	H340
Carc. 1A	H350
STOT SE 3	H335

Full text of H statements: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS02 GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H226 - Flammable liquid and vapor
H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H340 - May cause genetic defects
H350 - May cause cancer

Precautionary statements (GHS-US) :
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. - No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge

P261 - Avoid breathing fume, gas, mist, spray, vapors, dust
P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, protective clothing, protective gloves
P301+P312 - If swallowed: Call a doctor, a POISON CENTER if you feel unwell
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 doctor, a POISON CENTER if you feel unwell
P330 - Rinse mouth
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 dry extinguishing powder, carbon dioxide (CO2), alcohol resistant foam to extinguish
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
P501 - Dispose of contents/container to comply with applicable local, national and international regulation

2.3. Other hazards

other hazards which do not result in classification : On heating/burning: release of carbon monoxide - carbon dioxide. Gas/vapor 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.

2.4. Unknown acute toxicity (GHS US)

Not applicable.

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : UVCB
Name : Dicyclopentadiene
CAS No : 77-73-6

Name	Product identifier	%
Dimers	(CAS No) Not available	≤ 7
1,3-Pentadiene	(CAS No) 504-60-9	≤ 2
Cyclopentene	(CAS No) 142-29-0	≤ 2
cyclopentane	(CAS No) 287-92-3	≤ 2
Cyclopentadiene	(CAS No) 542-92-7	≤ 1
Benzene	(CAS No) 71-43-2	≤ 0,3

Full text of H-statements: see section 16

3.2. Mixture

Not applicable

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air. Seek medical attention immediately. Do not apply mouth-to-mouth resuscitation. If breathing is irregular or stopped, administer 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 contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist. Immediately get medical attention. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid measures after ingestion : Do not induce vomiting. If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep victim warm and rested. Never give anything by mouth to an unconscious person. Seek immediate medical advice. Call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Causes skin irritation. Irritation of respiratory tract. Irritation of mucous membranes. Overexposure to vapors may result in cough. Ingestion may cause nausea, vomiting and diarrhea. Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination.

Symptoms/injuries after inhalation : May cause respiratory irritation. Harmful if inhaled.

Symptoms/injuries after skin contact : Causes skin irritation.

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

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

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).

Unsuitable extinguishing media : Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Irritating vapors may be released. Keep away from sources of ignition - No smoking. Highly flammable. On combustion forms: Carbon monoxide. Carbon dioxide. May form explosive peroxides. Heavier than air, vapors may travel long distances along ground, ignite and flash back to source.

Explosion hazard : Flammable vapors can accumulate in head space of closed systems. May form flammable/explosive vapor-air mixture.

Reactivity : On burning: release of lead oxides carbon monoxide - carbon dioxide. Hazardous polymerization may occur if exposure to fire conditions. In contact with air, may generate explosive peroxides or unstable polymers which may detonate or ignite spontaneously. Highly flammable liquid and vapor. Attacks some forms of plastics, rubber, and coatings.

5.3. Advice for firefighters

Firefighting instructions : Full protection suit. 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 for firefighters : Full protective flameproof clothing. Fight fire from safe distance and protected location. In case of fire: Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area.

6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing gloves, and eye/face protection. Refer to section 8.

Emergency procedures : Remove all sources of ignition. Stop leak if safe to do so.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye/face protection.

Emergency procedures : Remove all sources of ignition. Stop leak if safe to do so. Evacuate unnecessary personnel.

6.2. Environmental precautions

Absorb remaining liquid with sand or inert absorbent and remove to safe place. Use water spray jet to minimize or disperse vapors. Prevent spread over a wide area (e.g. by containment or oil barriers).

6.3. Methods and material for containment and cleaning up

For containment : Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Methods for cleaning up : 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.

6.4. Reference to other sections

For further information refer to section 8: Exposure-controls/personal protection. For disposal of residues refer to section 13: Disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Flammable liquid and vapor. Handle in accordance with good industrial hygiene and safety procedures. Avoid ignition sources. Use only antistatically equipped (spark-free) tools. Use grounded electrical/mechanical equipment.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container closed when not in use. Keep away from sources of ignition. Use only in well-ventilated areas.

Storage conditions : Keep away from open flames, hot surfaces and sources of ignition. Store in dry, cool, well-ventilated area. Store at room temperature.

Incompatible materials : Strong oxidizing agents. Reducing agents. Certain plastics, rubbers and coatings. Halogens.

Storage area : Keep away from sources of ignition.

Packaging materials : Carbon steel. Cylinders. Drums. Stainless steel. Store in tightly closed, leak-proof containers of carbon steel or stainless steel.

7.3. Specific end use(s)

Refer to section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DCPD (77-73-6)		
ACGIH	ACGIH TWA (ppm)	5 ppm
ACGIH	Remark (ACGIH)	URT, LRT, & eye irr

cyclopentane (287-92-3)		
ACGIH	ACGIH TWA (mg/m³)	1720 mg/m³
ACGIH	ACGIH TWA (ppm)	600 ppm
ACGIH	Remark (ACGIH)	URT, eye, & skin irr; CNS impair

Cyclopentadiene (542-92-7)		
ACGIH	ACGIH TWA (mg/m³)	203 mg/m³
ACGIH	ACGIH TWA (ppm)	75 ppm
ACGIH	Remark (ACGIH)	URT & eye irr
OSHA	OSHA PEL (TWA) (mg/m³)	200 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	75 ppm

Benzene (71-43-2)		
ACGIH	ACGIH TWA (ppm)	0.50 ppm
ACGIH	ACGIH STEL (ppm)	2.5 ppm
ACGIH	Remark (ACGIH)	Leukemia
OSHA	OSHA PEL (TWA) (ppm)	10 ppm 1 ppm
OSHA	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1028)
OSHA	OSHA PEL (Ceiling) (ppm)	25 ppm
DNEL	DNEL	234 mg/l
PNEC	PNEC	1.9 mg/l

Dicyclopentadiene (77-73-6)		
ACGIH	ACGIH TWA (ppm)	5 ppm
ACGIH	Remark (ACGIH)	URT, LRT, & eye irr

8.2. Exposure controls

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

Materials for protective clothing	:	Protective gloves made of PVC. Wear suitable protective clothing.
Hand protection	:	PVC (Polyvinyl chloride). VITON gloves. Wear protective gloves. No. 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	:	Wear respiratory protection. Self-contained breathing apparatus.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Slightly yellowish
Odor	:	Pungent
Odor threshold	:	No data available
pH	:	Not Applicable
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	< - 20 °C
Freezing point	:	No data available
Boiling point	:	156 to 175 °C
Flash point	:	40 °C
Auto-ignition temperature	:	503 °C
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	5 – 7,5 kPa @ 20 ºC
Relative vapor density at 20 °C	:	No data available
Relative density	:	0,987 g/cm³
Solubility	:	Insoluble in water (0.02% at 20 ° C); Very soluble in ethyl ether and ethanol
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosive limits	:	0,8 – 6,3 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

On burning: release of lead oxides carbon monoxide - carbon dioxide. Hazardous polymerization may occur if exposure to fire conditions. In contact with air, may generate explosive peroxides or unstable polymers which may detonate or ignite spontaneously. Highly flammable liquid and vapor. Attacks some forms of plastics, rubber, and coatings.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

In contact with air, may generate explosive peroxides or unstable polymers which may detonate or ignite spontaneously.

10.4. Conditions to avoid

Avoid heat source. Avoid ignition sources. Strong oxidizing agents. Incompatible materials.

10.5. Incompatible materials

Oxidizing agents, strong. Acids. Alkaline. Halogens. Acids. Air. Attacks some forms of plastics, rubber, and coatings.

10.6. Hazardous decomposition products

Carbon monoxide. Hydrocarbon substances with low molecular weight and their oxidation products. Explosive decomposition on exposure to air: peroxidation resulting in increased fire or explosion risk.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

DCPD (\f)77-73-6	
LD50 dermal rat	> 2000 mg/kg

Cyclopentene (142-29-0)	
ATE US (oral)	500 mg/kg bodyweight
ATE US (dermal)	1100 mg/kg bodyweight

Cyclopentadiene (542-92-7)	
LC50 inhalation rat (mg/l)	39 mg/l

Benzene (71-43-2)	
LD50 oral rat	810 mg/kg
LD50 dermal rabbit	> 8260 mg/kg

Dicyclopentadiene (77-73-6)	
LD50 dermal rat	> 2000 mg/kg

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

Serious eye damage/irritation : Causes serious eye irritation.
pH: Not Applicable

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : May cause genetic defects.

Carcinogenicity : May cause cancer.

Benzene (71-43-2)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity, 2 - Known Human Carcinogens

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : May cause respiratory irritation.

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness. High concentrations in the air cause a deficiency of oxygen with the risk of unconsciousness or death. Prolonged exposure to small concentrations may result in pulmonary edema. Central nervous system depression.

Symptoms/injuries after inhalation : May cause respiratory irritation. Harmful if inhaled.

Symptoms/injuries after skin contact : Causes skin irritation.

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

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

SECTION 12: Ecological information

12.1. Toxicity

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

Benzene (71-43-2)	
LC50 fish 1	10.7 - 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	8.76 - 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 2	10 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

DCPD (77-73-6)	
Persistence and degradability	Not readily biodegradable.

Benzene (71-43-2)	
Persistence and degradability	Readily biodegradable. Not persistent.

Dicyclopentadiene (77-73-6)	
Persistence and degradability	Not readily biodegradable.

12.3. Bioaccumulative potential

DCPD (77-73-6)	
BCF fish 1	58.9 - 384 (carp)
BCF fish 2	53 (bluegill)
Log Pow	2.78
Bioaccumulative potential	The product presents low bioaccumulative potential in aquatic organisms.

Benzene (71-43-2)	
BCF fish 1	3.5 - 4.4
Bioconcentration factor (BCF REACH)	> 2000
Log Pow	1.83
Bioaccumulative potential	Not bioaccumulable.

Dicyclopentadiene (77-73-6)	
BCF fish 1	58.9 - 384 (carp)
BCF fish 2	53 (bluegill)
Log Pow	2.78
Bioaccumulative potential	The product presents low bioaccumulative potential in aquatic organisms.

12.4. Mobility in soil

DCPD (77-73-6)	
Ecology - soil	Product is volatile. Mobility in soil.

Dicyclopentadiene (77-73-6)	
Ecology - soil	Product is volatile. Mobility in soil.

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal through controlled incineration or authorized waste dump. Dispose of at authorized waste collection point.

Waste treatment methods : Disposal through controlled incineration or authorized waste dump. Can be deposited in landfills, sent to an incineration or other appropriate means of disposal provided they meet the requirements of local laws.

Additional information : Dispose of contaminated material at an authorized site. WARNING-Do not refill!.

SECTION 14: Transport information

Classification for LAND transport: DOT

UN Number : UN2048

Proper Shipping Name : Dicyclopentadiene

Class / Division : 3

Packing group : III

Reportable quantity : Not applicable

Classification for SEA transport: IMO - IMDG

UN Number : UN2048

Proper Shipping Name : DICYCLOPENTADIENE

Class / Division	: 3
Packing group	: III
Marine pollutant	: Product considered marine pollutant based on available data

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

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

Classification for AIR transport: IATA - ICAO

UN Number	: UN2048
Proper Shipping Name	: Dicyclopentadiene
Class / Division	: 3
Packing group	: III

This information does not intend to convey all specific regulatory or operational requirements/information relating to the product therefore it cannot be considered exhaustive. Consult US DOT, IMO and ICAO regulations before transporting the product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: Regulatory information

15.1. US Federal regulations

DCPD (77-73-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA
SARA Section 313 - Emission Reporting	1.0 %

1,3-Pentadiene (504-60-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
CERCLA RQ	100 lb

Cyclopentene (142-29-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

cyclopentane (287-92-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Cyclopentadiene (542-92-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

benzene (71-43-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

Dimers
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

DCPD (77-73-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA
SARA Section 313 - Emission Reporting	1.0 %

15.2. International regulations

CANADA

DCPD (77-73-6)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

1,3-Pentadiene (504-60-9)	
Listed on the Canadian DSL (Domestic Substances List)	

Cyclopentene (142-29-0)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

cyclopentane (287-92-3)	
Listed on the Canadian DSL (Domestic Substances List)	

Cyclopentadiene (542-92-7)	
Listed on the Canadian DSL (Domestic Substances List)	

benzene (71-43-2)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

DCPD (77-73-6)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

DCPD (77-73-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

1,3-Pentadiene (504-60-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Cyclopentene (142-29-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

cyclopentane (287-92-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Cyclopentadiene (542-92-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

benzene (71-43-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

DCPD (77-73-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

DCPD (77-73-6)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Japanese Pollutant Release and Transfer Register Law (PRTR Law) Listed on the Canadian IDL (Ingredient Disclosure List) Listed on INSQ (Mexican national Inventory of Chemical Substances) Listed on CICR (Turkish Inventory and Control of Chemicals)

1,3-Pentadiene (504-60-9)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on INSQ (Mexican national Inventory of Chemical Substances)

Cyclopentene (142-29-0)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican national Inventory of Chemical Substances)

cyclopentane (287-92-3)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican national Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

Cyclopentadiene (542-92-7)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican national Inventory of Chemical Substances)

benzene (71-43-2)
Listed on IARC (International Agency for Research on Cancer)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed as carcinogen on NTP (National Toxicology Program)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican national Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

DCPD (77-73-6)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican national Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

15.3. US State regulations

benzene (71-43-2)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	Yes	No	Yes	6.4 µg/day

SECTION 16: Other information

Sources of Key data : MSDS. CSR - Chemical Safety Report.

Abbreviations and acronyms : ACGIH (American Conference of Government Industrial Hygienists). ASTM - American Society for Testing and Materials . CLP - Classification, Labelling and Packaging. CSR - Chemical Safety Report. EC - European Community. GHS - Globally Harmonized System. EEC - European Economic Community. SDS - Safety Data Sheet . REACH - Registration, Evaluation, Authorization and Restriction of Chemicals. PVC (Polyvinyl chloride).

Full text of H-statements:

------	H225	Highly flammable liquid and vapor
------	H226	Flammable liquid and vapor
------	H301	Toxic if swallowed
------	H302	Harmful if swallowed
------	H304	May be fatal if swallowed and enters airways
------	H312	Harmful in contact with skin
------	H315	Causes skin irritation
------	H319	Causes serious eye irritation
------	H332	Harmful if inhaled
------	H335	May cause respiratory irritation
------	H336	May cause drowsiness or dizziness
------	H340	May cause genetic defects
------	H350	May cause cancer
------	H372	Causes damage to organs through prolonged or repeated exposure

Braskem - SDS US

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.