

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

1.1. Product identifier

Trade name : HS-100
 Product code : HS-100
 CAS No : 98-82-8

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

Use of the substance/mixture : Phenol and acetone manufacture

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.
 Av. Presidente Costa e Silva, 1178 – Capuava
 Santo André, SP, CEP: 09270-001, 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
 Carc. 2 H351
 STOT SE 3 H335
 Asp. Tox. 1 H304

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 vapour
 H302 - Harmful if swallowed
 H304 - May be fatal if swallowed and enters airways
 H335 - May cause respiratory irritation
 H351 - Suspected of causing 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. - No smoking
 P233 - Keep container tightly closed
 P240 - Ground/bond container and receiving equipment
 P241 - Use explosion-proof electrical equipment
 P242 - Use only non-sparking tools
 P243 - Take precautionary measures against static discharge
 P261 - Avoid breathing mist, spray, vapours
 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
 P280 - Wear protective clothing, protective gloves, eye protection
 P301+P310 - If swallowed: Immediately call a POISON CENTER
 P301+P312 - If swallowed: Call a POISON CENTER if you feel unwell
 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
 P308+P313 - If exposed or concerned: Get medical advice/attention
 P312 - Call a POISON CENTER if you feel unwell
 P330 - Rinse mouth
 P331 - Do NOT induce vomiting
 P370+P378 - In case of fire: Use carbon dioxide (CO₂), dry extinguishing powder, sand 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 hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : UVCB
 Name : Cumene
 CAS No : 98-82-8
 Synonym : Isopropylbenzene

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

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 victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Do not induce vomiting. If vomiting occurs have person lean forward.
 First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see First aid measures on this label).
 First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
 First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician. If vomiting occurs, have person lean forward.

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

Symptoms/injuries after inhalation : May cause respiratory irritation. High concentration of vapours may induce: headache, dizziness, drowsiness, nausea and vomiting.
 Symptoms/injuries after skin contact : Causes skin irritation. Prolonged or repeated contact with the skin may cause dermatitis.
 Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.
 Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways. Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Fatal if swallowed. Harmful if swallowed.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
 Unsuitable extinguishing media : Do not use a water jet since it may cause the fire to spread.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour.

Explosion hazard : May form flammable/explosive vapour-air mixture. Heating will cause pressure rise with risk of bursting and subsequent explosion. Heavier than air, vapours may travel long distances along ground, ignite and flash back to source.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use special care to avoid static electric charges. No open flames. No smoking. Eliminate all ignition sources if safe to do so.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate area. Avoid all eye and skin contact and do not breathe vapour and mist. Spilled material may present a slipping hazard.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain and collect as any solid. Contain leaking substance, pump over in suitable containers.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Take precautionary measures against static discharge. Consult the appropriate authorities about waste disposal.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist, spray, vapours. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/... equipment.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container tightly closed.

Incompatible products : Strong bases. Strong acids.

Storage area : Store in a dry, cool and well-ventilated place. Store away from heat.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Cumene (98-82-8)		
ACGIH	ACGIH TWA (ppm)	50 ppm

Cumene (98-82-8)		
OSHA	OSHA PEL (TWA) (mg/m ³)	245 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	50 ppm

8.2. Exposure controls

Appropriate engineering controls : Avoid the formation of mists in the atmosphere. Carry out operations in the open/under local exhaust/ventilation or with respiratory protection. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal protective equipment : Avoid all unnecessary exposure. Gloves. Protective goggles. Protective clothing. Insufficient ventilation: wear respiratory protection.



Hand protection : Wear protective gloves. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Eye protection : Chemical goggles or safety glasses. Chemical goggles and/or face shields are required to prevent potential eye contact, irritation or injury.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Wear respiratory protection.

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless
Odour	: Aromatic penetrating
Odour threshold	: No data available
pH	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: -96 °C
Boiling point	: 152 °C
Flash point	: 44 °C (Closed cup) 50 °C (Open Cup)
Auto-ignition temperature	: 420 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 430 Pa
Relative vapour density at 20 °C	: No data available
Relative density	: 0,858 – 0,866 @ 20°C (water 4°C = 1)
Solubility	: Water: Insoluble Soluble in ethanol, benzene and acetone
Log Pow	: No data available
Log Kow	: 3,66
Viscosity, kinematic	: 0,789 cSt @ 20°C
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.9 - 6.5 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

10.6. Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

Cumene (98-82-8)	
LD50 oral rat	1400 mg/kg
LD50 dermal rabbit	12300 µl/kg
LC50 inhalation rat (ppm)	> 3577 ppm (Exposure time: 6 h)
ATE US (oral)	1400.000 mg/kg bodyweight

Skin corrosion/irritation : Not classified
(Based on available data, the classification criteria are not met)
pH: Not applicable

Serious eye damage/irritation : Not classified
(Based on available data, the classification criteria are not met)
pH: Not applicable

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

Germ cell mutagenicity : Not classified
(Based on available data, the classification criteria are not met)

Carcinogenicity : Suspected of causing cancer.

Cumene (98-82-8)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity, 3 - Reasonably anticipated to be Human Carcinogen

Reproductive toxicity : Not classified
(Based on available data, the classification criteria are not met)

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

Specific target organ toxicity (repeated exposure) : Not classified
(Based on available data, the classification criteria are not met)

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

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : May cause respiratory irritation. High concentration of vapours may induce: headache, dizziness, drowsiness, nausea and vomiting.

Symptoms/injuries after skin contact : Causes skin irritation. Prolonged or repeated contact with the skin may cause dermatitis.

Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways. Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Fatal if swallowed. Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Cumene (98-82-8)	
LC50 fish 1	6.04 - 6.61 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	0.6 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	4.8 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 2	7.9 - 14.1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and degradability

Cumene (98-82-8)	
Persistence and degradability	Not established.

Cumene (98-82-8)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Cumene (98-82-8)	
Bioaccumulative potential	Not established.

Cumene (98-82-8)	
Bioaccumulative potential	Not established.

Cumene (98-82-8)	
BCF fish 1	35.5
Log Pow	3.55 (at 23 °C)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No additional information available

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Consult the appropriate local waste disposal expert about waste disposal. Dispose of contents/container to comply with applicable local, national and international regulations.

Additional information : Handle empty containers with care because residual vapours are flammable. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose containers to flames, sparks, heat, or other potential ignition sources. Do not re-use empty containers.

Ecology - waste materials : Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

Classification for LAND transport: DOT

UN Number : UN1918
 Proper Shipping Name : Isopropylbenzene
 Class : 3
 Packing group : III
 Reportable quantity : Not applicable

Classification for SEA transport: IMO - IMDG

UN Number : UN1918
 Proper Shipping Name : ISOPROPYLBENZENE
 Class : 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 : Propylbenzene (all isomers)

Classification for AIR transport: IATA - ICAO

UN Number : UN1918
 Proper Shipping Name : Isopropylbenzene
 Class : 3
 Packing group : III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product and it should not be considered exhaustive. Consult US DOT, IMDG and IATA 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

Cumene (98-82-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on 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.
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
SARA Section 313 - Emission Reporting	1.0 %

15.2. International regulations

CANADA

No additional information available

Cumene (98-82-8)	
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

EU-Regulations

No additional information available

Cumene (98-82-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

No additional information available

15.2.2. National regulations

Cumene (98-82-8)
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)

15.3. US State regulations

Cumene (98-82-8)				
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	No significance risk level (NSRL)
Yes	No	No	No	

SECTION 16: Other information

Other information : None.

Full text of H-statements:

-----	Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
-----	Asp. Tox. 1	Aspiration hazard, Category 1
-----	Carc. 2	Carcinogenicity, Category 2
-----	Flam. Liq. 3	Flammable liquids, Category 3
-----	STOT SE 3	Specific target organ toxicity (single exposure) Category 3
-----	H226	Flammable liquid and vapour
-----	H302	Harmful if swallowed
-----	H304	May be fatal if swallowed and enters airways
-----	H335	May cause respiratory irritation
-----	H351	Suspected of causing cancer

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.