



# HINDUSTAN ORGANIC CHEMICALS LTD

## MATERIAL SAFETY DATA SHEET

### ACETONE

#### Section1–Chemical Product and Company Identification

<b>Chemical Name</b>	Acetone
<b>Synonyms</b>	Dimethyl Ketone, 2-Propanone, Methyl Ketone
<b>Chemical Formula</b>	CH <sub>3</sub> -CO-CH <sub>3</sub>
<b>CAS Number</b>	67-64-1
<b>UN Number</b>	1090
<b>General Use</b>	Besides its application as a solvent, Acetone is an important intermediate product of the chemical industry e.g. for manufacturing Methyl methacrylate, Methyl Isobutylketone and Bisphenol A etc.
<b>Manufacture's Name Address</b>	Hindustan Organic Chemicals Ltd, Kochi Unit, Ambalamugal Ernakulam District, Kerala State, Pincode-682302
<b>Telephone Number for Info:</b>	Website: <a href="http://www.hoclindia.com">www.hoclindia.com</a> Email : <a href="mailto:kochi@hoclindia.com">kochi@hoclindia.com</a> Telephone Nos: Telephone Nos: 0484-2720927, 2720911,
<b>Emergency Telephone Numbers</b>	Mob. No: 9446520911, 0484-2720927(Control Room) : 9072374001(Marketing)

#### Section 2 – Hazards Identification

<b>Classification of Substance or Mixture:</b>	Highly Inflammable Liquid and Vapour.
<b>Eye irritation:</b>	Cause serious Eye Irritation.
<b>STOT (SE):</b>	May cause drowsiness or dizziness . Repeated exposure may cause skin dryness and cracking.
<b>Classification Label: Packing (CLP)</b>	Highly inflammable Liquid and Vapour.
<b>Signal word</b>	Danger





<b>Precautionary Statements:</b>	Keep away from heat, hot surfaces, sparks, other ignition sources. No smoking.
<b>If contact with Eyes:</b>	Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do. Continue rinsing.
<b>Storage and Disposal:</b>	Store in a well-ventilated place, keep container tightly closed. Store locked up. Dispose of contents/ container to hazardous or special waste collection point.
<b>Other Hazards:</b>	Vapours are moderately irritating to the mucous membranes. Higher doses may have a narcotic effect, danger of metabolic acidosis. After ingestion: Gastric and intestinal problems. Other symptoms: Headache, dizziness, nausea, unconsciousness.

### Section 3 – Composition / Information on Ingredients

<b>Chemical Characterization:</b>	CH <sub>3</sub> -CO-CH <sub>3</sub> Acetone, Dimethylketone, 2-Propanone, Methylketone
<b>CAS No.:</b>	67-64-1
<b>Percentage:</b>	99-100% by weight
<b>Hazardous:</b>	Yes

### Section 4 – First Aid Measures

<b>Description of First Aid measures</b>	
<b>If persons affected:</b>	Move victim to fresh air, put at rest and loosen restrictive clothing. Do not allow victim to become chilled. Keep victim warm. If victim is at risk of losing consciousness, position and transport on their side. Call a physician immediately.
<b>Inhalation:</b>	Move victim to fresh air, put at rest and loosen or remove restrictive clothing. If breathing becomes irregular or ceases, apply rescue breathing or artificial respiration immediately. When required supply oxygen. Immediately get medical attention.
<b>Ingestion:</b>	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Give activated carbon, in order to reduce the re absorption in gastro-enteric tract.
<b>Skin Contact:</b>	Immediately remove any wetted clothing, shoes or stockings. After contact with skin, wash immediately with soap and plenty of water. Then cream your skin. In case of skin irritation, consult a Physician
<b>Eye Contact</b>	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently seek the immediate attention of an Ophthalmologist.



## Section 5 – Fire Fighting Measures

### Special Hazards arising from the Substance or Mixture

Flash point (cc) :	-20 °C
Auto ignition temperature :	465 °C
Flammability limits in Air by volume	LEL -2.6 % HEL 12.8%
Explosion :	Above flash point vapour air mixtures are explosive within Flammable limits, vapours can move to distant ignition source and flash back, contact with strong oxidizing agents may cause fire, sealed containers rupture when heated, this material may produce floating hazard, sensitive to static discharge.
Fire Extinguishing Media:	Extinguishing powder, Alcohol resistant foam, Water spray jet.  In enclosed areas: Carbon dioxide. Do not use Full water jet.
Advice for Fire Fighters:	HAZCHEM Code •2YE Fire Class: B Wear a self-contained breathing apparatus and chemical protective clothing. Heating will lead to pressure increase of pressure bursting and explosion of containers. Use fine water spray to cool endangered containers. Move undamaged containers from immediate hazard area.  Do not allow fire water to penetrate into surface or ground water, contaminated extinguishing water and Fire residuals must be disposed of in accordance with the regulations of the local authorities.

## Section 6 – Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

If safe to do so, shut off all possible sources of ignition.  
Clear area of all unprotected personnel.  
Slippery when spilt to avoid accidents, clean up immediately.  
Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation.  
Wear a self-contained breathing apparatus and chemical protective clothing

**Environmental precautions**  
Plug leak if safely possible.  
Do not allow to enter drains, surface waters, basements or pits.  
When released into the environment, alert police and fire brigade.  
Seal all low level rooms. Danger of explosion!

**Methods and material for containment and cleaning up**  
Liquid : Very highly flammable. Liquid evaporates very quickly.  
Vapours: Very highly flammable.  
Vapours form potentially explosive mixtures with air. Heavier than air, they proceed at floor level and may back-flash over great distances when ignited. Ignition by hot surfaces, sparks and open flames.

In case of spills of large quantities: Dam spills and pump to remove. Explosion protection required. Absorb leftover product with non-flammable liquid-binding material (e.g. earth, sand, vermiculite or ground sand stone) and place in closed containers for disposal.

Flowing water: Dilution occurs quickly.

Standing water: Seal off. Remove all sources of ignition.

Additional information: Vapours spread at floor level. Cover drainage holes and evacuate basement.

Dilute with plenty of water. Use only explosion-protected equipment/instruments.

## Section 7 – Handling and Storage

### Precautions for safe Handling & Storage

This material is classified as a Class 3 Flammable Liquid

Advices on safe handling:

Provide adequate ventilation, and local exhaust as needed. Provide room air exhaust at ground level

Concentrated vapours are heavier than air. Avoid the formation of aerosol.

Do not breathe vapours, avoid contact with skin and eyes.

Wear appropriate protective equipment.

Use only explosion-protected equipment/instruments. Do not use air pressure.

Precautions against fire and explosion:

Exposure to temperatures exceeding 50 °C will increase pressure: resulting in danger of explosion.

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharges. Beware of re-ignition.

Potentially explosive mixture may form within partially empty containers.

Emergency cooling must be provided for in case of a fire in the vicinity.

Do not do welding.

Conditions for safe storage, including any incompatibilities

Requirements for Store Rooms and containers:

Keep container dry, Keep tightly closed in a cool, well-ventilated place. Protect from direct sunlight.

Steel, Stainless steel, and Aluminium are stable container materials. Copper may be attacked.

Unsuitable container/equipment material: May attack plastics.

Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Hints on joint storage: Do not store together with combustible or self-igniting materials or any highly flammable solids.

Peroxide may form when product is exposed to light and air.

Further details: Potentially explosive mixture may form within partially empty containers.

## Section 8 – Exposure Controls/Personal Protection

### Occupational Exposure limit

**Odour Threshold-100 ppm, STEL-1000 ppm TWA-500 ppm**

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture

**Biological Limit Values:** The ingredients in this material do not have a Biological Limit Allocated.

**Engineering Measures:** Ensure ventilation is adequate to maintain air concentrations below exposure standards. Use only in well ventilated areas. Use with local exhaust ventilation or while wearing Personal Protection Equipment: safety shoes, overalls, gloves, chemical goggles, respirator. Use filter type AX (= against vapours of low boiling organic substances).

Have a breathing apparatus that is not dependent on the circulating air ready for emergencies.

**Hand protection:** Protective Gloves.

**Glove material:** Butyl rubber Gloves (Layer thickness  $\geq 0.5$  mm) Breakthrough time:  $>480$  min.

Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

**Eye protection:** Tightly sealed goggles.

**Hygiene Measures:** Keep away from food, drink and feeding stuffs. When using do not eat, drink. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour, mist. Ensure that eyewash stations and safety showers are close to the workstation location.

**Explosion protection required.**

Provide good ventilation and/or an exhaust system in the work area.

## Section 9 – Physical and Chemical Properties

<b>Appearance Form</b>	: Liquid
<b>Colour</b>	: Colourless, Clear
<b>Odour</b>	: Fragrant Mint
<b>Odour Threshold</b>	: 47.5 mg/m <sup>3</sup>
<b>Melting point/freezing point</b>	: -94.7 °C
<b>Initial boiling point and boiling range</b>	: 56.48 °C
<b>Flash point/flash point range</b>	: -17.7 °C (c.c.)-20°C(o.c.)
<b>Evaporation rate</b>	: No data available
<b>Explosion limits</b>	: LEL 2.50 vol-%
<b>Vapour pressure</b>	: UEL 12.80 vol-%
<b>Solubility: at 20 °C</b>	: at 39.5 °C: 400mm Hg
<b>Water solubility</b>	: In organic solvents 100 % (ether, alcohol, chloroform)
<b>Specific gravity</b>	:
<b>Viscosity, dynamic</b>	: 0.791 at 20 °C : 0.32 mPa*s
<b>Explosive properties</b>	: Explosion category 1; Explosion group II A
<b>Ignition temperature</b>	: 465 °C
<b>Refraction index</b>	: at 20 °C: 1.358 - 1.359
<b>Molar mass</b>	: 58.09 g/mol



## Section 10 – Stability and Reactivity

**Chemical Stability:** Product is stable under normal storage conditions.

**Reactivity:** Acetone reacts in presence of bases. Vapours form potentially explosive mixtures with air. Heavier than Air they proceed at floor level and may back flash over great distances when ignited.

**Possibility of Hazardous reactions:** No hazardous reactions known

**Conditions to avoid:** Highly flammable. Concentrated vapours are heavier than air take precautionary measures against static discharges. Forms explosive mixtures with air, also in empty, unclean containers.

**Incompatible materials:** Attacks many plastics and rubbers. On contact with Barium Hydroxide, Sodium hydroxide and many other alkaline materials condensation may occur. Avoid contact with strong oxidizing agents, Alkalis and Amines.

**Hazardous decomposition products:** In case of fire may be liberated: Carbon monoxide and carbon dioxide

**Thermal decomposition:** None

## Section 11 – Toxicological Information

### Information on Toxicological effects

**Acute toxicity:** LD50 Rat, oral: 5800 mg/kg body weight

LD50 Rat, dermal: > 15800 mg/kg bw

LC50 Rat, inhalative: 76 mg/L/4h

**Toxicological effects:** Acute toxicity (oral): Based on available data,

Acute toxicity (dermal): Based on available data, the classification criteria are not met.

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Specific symptoms in animal studies (guinea pig): Does not cause irritation.

Serious eye damage/irritation: Eye Irrit. 2; H319 = Causes serious eye irritation.

Specific symptoms in animal studies (Rabbit): irritant (OECD 405)

Sensitization to the respiratory tract: Based on available data, the classification criteria are not met.

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

Sensitization: Specific symptoms in animal studies (guinea pig): not sensitizing (OECD406)

Germ cell mutagenicity/ Genotoxicity: Based on available data, the classification criteria are not met.

Not mutagenic in bacterial mutagenicity (OECD 471)

Chromosomal aberrations, in-vitro (OECD 473): negative

Gene-mutations mammalian cells, in-vitro (OECD 476): negative

Micronucleus test in-vivo Mouse/hamster (non-Guideline): negative

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

Not carcinogen at long term exposure (Mouse, dermal).

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

Effects on fertility: No impairment of reproductive performance in animal experiments.

Developmental toxicity: None developmental toxicity (inhalation at Rat, Mouse, OECD 414).

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): STOT SE May cause drowsiness or dizziness. cause drowsiness or dizziness.

In case of ingestion: Gastric and intestinal problems.

After contact with skin:

Irritant. Repeated exposure may cause skin dryness or cracking, due to de-fatting properties.

No indication for sensitizing properties in humans.

After eye contact: Causes serious eye irritation.

## Section 12 – Ecological Information

**Mobility in Soil**  
 Adsorption coefficient soil (Kd): 1.5 L/kg, at 20 °C.  
 The soil sorption coefficient indicates that acetone is mobile in soil and may be transported by soil water.

**Volatility:**  
 Henry constant: 2.929 - 3.070 Pa\*m<sup>3</sup>/mol (25 °C water).  
 Henry constant: 3.311 Pa\*m<sup>3</sup>/mol (25 °C marine water).  
 Experimentally determined Henry's Law constants indicate a moderate volatility from water.

**Other adverse effects**  
 General information: Terrestrial toxicity:  
 48h LD50 (Eisenia fetida): 0.1 - 1 mg/cm<sup>3</sup>  
 48h LD50 (Ambystoma mexicanum): 20,000 mg/L  
 48h LD50 (Xenopus laevis): 24,000 mg/L  
 In a study conducted according to OECD Guideline 207 (Earthworm, Acute Toxicity Tests: filter paper contact test), Acetone showed a moderate toxicity to Eisenia fetida. In further, short term toxicity studies, Ambystoma mexicanum and Xenopus laevis larvae exposed to Acetone under static conditions in covered glass basins showed 48h LC50 values of 20,000 mg/L and 24,000 mg/L, respectively.  
 Do not allow to enter into ground-water, surface water or drains.

## Section 13 – Disposal Considerations

**Waste Treatment methods**

Wastes from the manufacture of Basic Organic Chemicals: Records for Disposal must be provided  
 Recommendation: Dispose as Hazardous Waste according to applicable Local, State, and Central Regulations to a licensed professional waste disposal service to dispose of this material  
 Do not dispose of with Household Waste.


**Contaminated Packaging**  
 Recommendation: Dispose of waste according to applicable legislation.  
 Handle contaminated packages in the same way as the substance itself.  
 Non-contaminated packages may be recycled.

## Section 14 – Transport Information

**Domestic Land**

Proper Shipping Name	: ACETONE
CAS No	: 67-64-1
UN No.	: 1090
Dangerous Goods Class	: 3
HAZCHEM Code	: •2YE

Transport in Bulk/Drums





## Section 15 – Regulatory Information

Manufacture Storage and Import of Hazardous Chemicals Rule 1989.

## Section 16 – Other Information

### Disclaimer:

The information and recommendations contained herein are, to the best of Hindustan Organic Chemicals Ltd.'s knowledge and belief, accurate and reliable as of the date issued.

This information and recommendation are offered for the user's consideration and examination. If the user repackages the product, it is the user's responsibility to ensure health and safety precautions and other necessary information are included with the container. Appropriate warnings and safe handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited, except to the extent required by law. Republication of this document in whole or in part is not permitted.

Prepared by: Technical Services Department

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# HINDUSTAN ORGANIC CHEMICALS LTD

## MATERIAL SAFETY DATA SHEET

### PHENOL





#### Section1- Chemical Product and Company Identification

Chemical Name	PHENOL
Synonyms	Carbolic Acid, Monohydroxy Benzene, Phenyl Hydroxide
Chemical Formula	C <sub>6</sub> H <sub>5</sub> OH
CAS Number	108-95-2
UN Number	2312, 2821 (Molten & Hydrated)
General Use	Phenol is an important raw material for the Chemical industry. It is used for manufacturing of Bis-Phenol-A, Phenol-Formaldehyde-Resins, Caprolactum, Alkyl Phenols Salicylic Acid and Nitrophenols etc.
Manufacture's Name Address	Hindustan Organic Chemicals Ltd, Kochi Unit, Ambalamugal P.O. Ernakulam District, Kerala State, Pincode-682302
Telephone Number other Info	Website: <a href="http://www.hoclindia.com">www.hoclindia.com</a> Email: <a href="mailto:kochi@hoclindia.com">kochi@hoclindia.com</a> Telephone Nos: 0484-2720927, 2720911, 2720432. 2720444
Emergency Telephone Numbers	Mob No: 9446520911, 0484-2720927(Control Room) 9072374001(Marketing) 0484-2720808 (Fire Station)

#### Section 2 - Hazards Identification

##### Classification of Substance or Mixture

Hazard statement	Toxic if swallowed. Toxic in contact with skin Toxic if inhaled. Causes severe skin burns Causes severe eye burns Suspected of causing genetic defects
STOT (RE)	May cause damage to organs through prolonged or repeated exposure. Suspected of causing genetic defects, Toxic to aquatic life with long lasting effects.

<b>Classification Label Packing (CLP)</b>	 Toxic (Oral dermal Inhalation)  Corrosive (Skin, Eye)  Health Hazard (STOT (RE) Germ cell Mutagenicity)  Environmentally damaging (Chronic Hazard to aquatic Life)
<b>Signal word</b>	<b>Danger</b>
<b>Precautionary Statements</b>	Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/ eye protection/ face protection. Avoid release to the environment.
<b>If contact with Eyes</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do, continue rinsing.
<b>If swallowed</b>	Do not induce vomiting, immediately call a Doctor.
<b>If contact with skin</b>	Wash with plenty of water/soap, immediately call a Doctor
<b>Storage and Disposal</b>	Store in a well-ventilated place, keep container tightly closed. Store locked up. Dispose of contents/container to Hazardous or special waste collection point.
<b>Other Hazards</b>	After re-absorption: injuries of the internal organs Liver, Kidneys, Heart.  Strong skin absorption is main danger of phenol poisoning at the workplace with paralysis of the central nervous system as well as Liver and Kidney damage.

### Section 3 - Composition / Information on Ingredients

<b>Chemical Characterization</b>	<b>C<sub>6</sub>H<sub>5</sub>OH</b>
<b>Synonyms</b>	<b>Phenol, Carbolic Acid, Monohydroxy Benzene</b>
<b>CAS No</b>	<b>108-95-2</b>
<b>Phenol percentage</b>	<b>90-99.5 Percentages are by weight</b>
<b>De-ionised Water</b>	<b>=&lt;10%</b>
<b>Hazardous</b>	<b>Yes</b>

## Section 4 – First Aid Measures

### Descriptions of First Aid measures

#### Person affected

Pay attention to self-protection!

Move victim to fresh air, put at rest and remove contaminated clothing. If victim is at risk of losing consciousness, position and transport on their side. Call a physician immediately.

#### Inhalation

Move victim to fresh air, put at rest and loosen or remove restrictive clothing, If breathing becomes irregular or ceases, apply rescue breathing or artificial respiration immediately, When required supply oxygen. Immediately get medical attention.

#### Skin contact

Remove immediately, all contaminated clothing, immediately get medical attention. Treat by intermittent water washes and PEG to prevent tissue destruction. Wash as much residue phenol from the skin as possible with water and PEG alternating at least for 30 minutes or until further medical attention is received. Gloves must be used when applying the PEG.

#### Eye contact:

If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing, subsequently seek the immediate attention of an Ophthalmologist.

#### Swallowing

Rinse mouth immediately and drink plenty of water. Do not induce vomiting. Immediately get medical attention

#### Most important symptoms and effects, both acute and delayed

In case of inhalation: Mucous membrane irritation, cough, shortage of breath, damage of respiratory tract.

After contact with skin: Strong skin absorption as main danger of phenol poisoning at the work place with paralysis of the central nervous system(with lethal consequences in severe cases) as well as liver and kidney damage.

Indication of any immediate medical attention and special treatment needed.

#### Symptoms and dangers:

No specific antidote therapy for phenol poisoning is known. Therefore, it is important to remove the phenol completely from the body surface and out of the body as quickly as possible, and in the case of inhalation prophylactic treatment to prevent Pulmonal edema is of great importance. Phenol causes strong caustic burns of the skin and mucous membranes due to its protein degenerating action. The skin initially discolours white, later red, after initial pain, local anesthesia appears. Absorptive poisoning by large amounts of phenol is possible also through small affected skin regions and quickly leads to paralysis of the central nervous system as well as strong depression of the body temperature.

Inhaling phenol vapours can lead to damage of the bronchial system and Pulmonal edema. Systemic damage to kidneys, liver and heart as well as neuropsychiatric disturbances is produced.

#### Treatment:

Thoroughly clean the wetted skin areas, if possible with polyethylene glycol. In case of eye contact, rinse copiously with water, in case of burns rinse continuously with water as far as possible and take to an eye specialist or eye clinic. In case of inhalation, to prevent pulmonal edema, initiate inhalative cortisone therapy as early as possible, administer codeine against dry coughing. In case of commencing or manifested pulmonary edema, systemic administration of cortisone.

Caution: A low symptom or symptom-free interval is possible. If swallowed, gastric linage after intubation activated charcoal, saline laxative.

## Section 5 - Fire Fighting Measures

### Special Hazards arising from the Substance or Mixture

Flash point	79°C (CC)
Auto ignition temperature	595°C
Flammability limits in Air by volume	LEL -1.7 % HEL 8.6%
	Above flash point vapour air mixtures are explosive within flammable limits, Combustible. Vapours are heavier than air and will spread at floor level.
1Extinguishing media	Extinguishing power, Foam, Water spray jet. In enclosed areas: Carbon dioxide. Do not use Full water jet
Advice for Fire Fighters	HAZCHEM Code •2X HAZARD CLASS 6.1 Wear a self-contained breathing apparatus and chemical protective clothing. Heating will lead to pressure increase of pressure leads of bursting and explosion of containers. Use fine water spray to cool endangered containers. Move undamaged containers from immediately from hazard area. Do not allow fire water to penetrate into surface or ground water, contaminated extinguishing water and fire residuals must be disposed of in accordance with the regulations of the local authorities.

## Section 6 - Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Keep upwind.  
Do not breathe vapours. Do not breathe dust. Avoid contact with the substance. Wear suitable protective clothing.  
Provide adequate ventilation.

Leaks may be repaired only with full protection (tightly closing chemical protection clothing, respirator equipment independent of the ambient air).

### Environmental precautions

Do not allow to penetrate into soil, water bodies or drains.  
Danger to drinking water when soaking into the soil or waters. In case of entry into waterways, soil or drains, inform the responsible authorities.

### Methods and material for containment and cleaning up

Allow the leaked product to solidify if this is possible without endangering people. Take up mechanically, placing in appropriate containers for disposal.  
Phenol, liquid: Collect spillage. Absorb with liquid-binding material (eg. sand, diatomaceous earth, acid-or universal binding agents) and place in closed containers for disposal.

### Final Cleaning.

Collect the rinsing water when cleaning-down contaminated equipment and plant components (to prevent phenol from escaping into deep soil layers).



## Section 7-Handling and Storage

### Precautions for safe handling

Advices on safe handling: Execute works under fume hood. Do not inhale substance.

Avoid contact with skin, eyes, and clothing.

The material is to be handled with extreme caution.

Requires good ventilation.

Welding operations are permitted only under supervision.

### Precautions against fire and explosion:

Keep away from sources of ignition-No smoking.

### Conditions for safe storage including any incompatibilities

Requirements for store rooms and containers:

Keep container tightly closed.

Storage temperature:

Liquid: 50°C up to 60°C

Solid: 15°C up to 25°C

Keep container in a well-ventilated place. Protect from light.

Material: Steel or Refined steel.

Keep locked up. Only trained personnel may be allowed to enter storage area.

### Hints on joint storage:

Do not store together with food. Do not store together with: Solvent, Aluminium, Aldehydes, Hydrogen peroxide, oxidizing agents, strong Acids, strong Bases, Formaldehyde, Nitrites, Nitrates, Halogenates, Peroxide compounds.

## Section 8- Exposure Controls / Personal Protection

**Odour Threshold: 0.22mg/m<sup>3</sup>, STEL-16 mg/m<sup>3</sup>, TWA-7.8 mg/m<sup>3</sup>**

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture. Execute works under fume hood. Do not inhale substance.

**Biological Limit Values: 120mg/g Creatinine**

Long-Term, workers Inhalative : 8mg/m<sup>3</sup> kgbw/d

Long-Term ,workers, Dermal : 1.23mg/ m<sup>3</sup> kgbw/d

Environment: Fresh Water : 0.0077 mg/L

Marine Water : 0.00077mg/L.

Soil : 0.136mg/kg/wt.



**Personal Protection Equipment:** safety shoes, overalls, gloves, chemical goggles, respirator

**Occupational exposure controls**

**Respiratory Protection:** Respiratory protection must be worn whenever the WEL levels have been exceeded use filter type ABEK.

**Protective Gloves.**

**Protective gloves:** Neoprene, PVC breakthrough time 140min.(Neoprene) 75min.(PVC)

Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

**Eye protection:** Goggles or face protection shield

**Body protection:** Wear suitable protective clothing Material: PVC safety shoes

**General protection and hygiene measures:**

**Hygiene Measures:** Keep away from food, drink and feeding stuffs. When using do not eat, drink Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour, mist. Ensure that eyewash stations and safety showers are close to the workstation location.

Explosion protection required.

Provide good ventilation and/or an exhaust system in the work area.

## Section 9- Physical and Chemical Properties

### Information on basic physical and chemical properties

<b>Appearance:</b>	: Form: Liquid (>40.9°C) Solid (< 40.9 °C)
<b>Colour</b>	: Pink-liquid, White- solid
<b>Odour:</b>	:Sweet tarry odour
<b>Specific gravity:</b>	: 1.058 at 41°C
<b>Melting point/freezing point:</b>	: 40.9°C
<b>Initial boiling point:</b>	:181.9°C
<b>Evaporation rate:</b>	:No data available
<b>Explosion limits:</b>	:LEL:1.30 Vol-%, UEL: 9.00 Vol-%
<b>Vapour pressure:</b>	:at 40 °C: 1 mm Hg
<b>Vapour density:</b>	:3.24
<b>Density:</b>	:at25°C:1.13g/cm <sup>3</sup> (DIN51757)
<b>Water solubility:</b>	:at 30°C: soluble :At 68°C: completely miscible
<b>Partition coefficient</b>	:1.47 :Based on the N-Octanol/ water partition coefficient significant accumulation in organisms is not expected.
<b>Auto-ignition temperature:</b>	: 595°C
<b>Viscosity, dynamic:</b>	;at 50°C: 3.437 mPa*s
<b>Explosive properties:</b>	:Product is not explosive
<b>Oxidizing characteristics:</b>	:No data available
<b>Molecular weight</b>	: 94.11g/mol
<b>Relative vapour density at 20°C</b>	:3.2



## Section 10-Stability and Reactivity

### Chemical stability

Product is stable under normal storage conditions.

### Reactivity

Hygroscopic

### Possibility of hazardous reactions

No dangerous reactions are known.

### Conditions to avoid

No decomposition when used properly.

It may react to form Alcohol, Hydroquinone.

Protect from moisture contamination.

### Incompatible materials

Oxidizing agents, Aldehydes, Isocyanates, Nitrites, Nitrides, Friedel-Crafts catalysts. Unsuitable materials: Metals, Rubber, various Plastics, Alloys.

### Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide and Carbon dioxide.

Thermal decomposition : None

## Section 11-Toxicological Information

### Information on toxicological effects

Acute toxicity: LD50 Rat, Oral : 340 mg/kgbw  
LD50 Rat, Dermal: 660 mg/kgbw  
LDLo Human Oral: 140 mg/kg bw

### Toxicological Effects:

Acute Toxicity (Oral) : Acute toxic if swallowed,

Acute Toxicity (Dermal) : Acute toxic in contact with skin.

Acute Toxicity (Inhalative) : Acute toxic if inhaled.

Skin corrosion/Irritation : Causes severe skin burns and eye damage, sensitive to the respiratory tract

Aquatic Toxicity: Toxic to aquatic life with long lasting effects.

Germcel /mutagenicity /Genotoxicity: Suspected of causing genetic defects.

Bacterial Mutagenicity: Negative.

Carcinogenicity: Based on available data, Carcinogenic effect.

Reproductive Toxicity: Based on available data: No reproductive hazards

Specific Target Organ Toxicity (Repeated Exposure): STOT RE May cause damage to organs through prolonged or repeated exposure.

May cause damage to organs through prolonged or repeated exposure

Organs affected: Nervous system, Skin, Liver, Kidneys

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

### Symptoms

In case of inhalation: Mucous membrane irritation, cough, shortage of breath, damage of respiratory tract.

After contact with skin: Strong skin absorption as main danger of Phenol poisoning at the workplace with paralysis of the Central Nervous system as well as liver and kidney damage.

## Section 12- Ecological Information

**General information** : Do not allow to enter into ground-water, surface water or drains.  
**Mobility in soil** : The soil sorption coefficient indicates a low sorption of phenol onto soil organic matter.  
**Water** : Not susceptible to Hydrolysis.  
**Aquatic toxicity** : Toxic to aquatic life with long lasting effects.

## Section 13- Disposal Considerations

### Waste Treatment methods

Wastes from the manufacture of Basic Organic Chemicals: Records for Disposal must be provided  
Recommendation: Dispose as Hazardous Waste according to applicable Local, State, and Central regulations to a licensed professional waste disposal service to dispose of this material  
Do not dispose of with Household Waste.

### Contaminated Packaging

Recommendation: Dispose of waste according to applicable legislation.  
Handle contaminated packages in the same way as the substance itself.  
Non-contaminated packages may be recycled.

## Section 14-Transport Information

### Domestic Land

**Proper Shipping Name** : PHENOL  
**CAS No** : 108-95-2  
**UN No.** : 1671  
**Dangerous Goods Class** : Poison Class 6.1  
**HAZCHEM Code** : •2X

### Transport in Bulk/Drums

Poison Class 6.1







## Section 15 – Regulatory

**Manufacture Storage and Import of Hazardous Chemicals Rule 1989**

## Section 16-Other Information

### **Disclaimer:**

The information and recommendations contained herein are to the best of Hindustan Organic Chemicals Ltd's knowledge and belief, accurate and reliable as of the date issued.

This information and recommendation are offered for the user's consideration and examination. If the user repackages the product, it is the user's responsibility to ensure health and safety precautions and other necessary information are included with the container. Appropriate warnings and safe handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited, except to the extent required by law. Republication of this document in whole or in part is not permitted.

**Prepared by: Technical Services Department  
Revised & Published on: 08-05-2023**



# HINDUSTAN ORGANIC CHEMICALS LTD

## MATERIAL SAFETY DATA SHEET

### HYDROGEN PEROXIDE 50% w/w

## Section 1 – Chemical Product and Company Identification

Chemical Name	Hydrogen Peroxide (50%) w/w
Synonyms	Peroxide, Superoxol, Oxydol
Chemical Formula	H <sub>2</sub> O <sub>2</sub>
CAS Number	7722-84-1
UN Number	2015
General Use	Versatile chemical used in various industries for Bleaching, Chemical synthesis, Effluent Treatment, Metal treatment etc.
Manufacture's Name	Hindustan Organic Chemicals Ltd, Kochi Unit, Ambalamugal
Address	Ernakulam District, Kerala State, Pincode-682302
Telephone Number for Info:	Website: <a href="http://www.hoclindia.com">www.hoclindia.com</a> Email: <a href="mailto:kochi@hoclindia.com">kochi@hoclindia.com</a> Telephone Nos: 0484-2720927, 2720911, 2720432. 2720444
Emergency Telephone Numbers	Mob No :9446520911,0484-2720927 (Control Room), :9072374001(Marketing) :0484-2720808 (Fire Station)

## Section 2 – Hazards Identification

### Classification of Substance or Mixture

Hazard statement	Oxidising Liquids
Skin Irritation	May intensify fire; Oxidizer Causes Skin irritation, Eye irritation
Acute Toxicity- Oral	Harmful if swallowed
Inhalation	Harmful if inhaled
STOT (SE)	May cause respiratory irritation.
Classification Label	Oxidising Liquids
Signal word	Danger



**Precautionary statements**

Keep/Store away from clothing/flammable/combustible materials. Causes severe skin burns and eye damage.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wash skin thoroughly after handling do not eat, drink or smoke when using this product.

**Contact with Eyes**

Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do, continue rinsing.

**Storage and Disposal**

Store in a well-ventilated place, Store in a well-ventilated place.

Keep container in a cool place.

Keep container in a cool place out of direct sunlight.

Store only in vented containers. Store locked up.

Dispose of contents/container to Hazardous or special waste collection point.

**Other Hazards**

Vapours are moderately irritating to the mucous membranes. Wear protective gloves/protective clothing/eye/face protection.

Harmful to aquatic life with long lasting effects.

**Section 3 – Composition / Information on Ingredients****Chemical Characterization**

H<sub>2</sub>O<sub>2</sub>

Hydrogen peroxide aqueous solution 50% w/w

**CAS No**

7722-84-1

**Percentage**

50% by weight

**De-ionised Water**

50% by weight

**Hazardous**

Yes

**Section 4 – First Aid Measures****Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Seek immediate medical attention/advice.

**Skin Contact**

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.

**Inhalation**

Move to fresh air. If person is not breathing, contact emergency medical services, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.



### Ingestion

Rinse mouth. Do not induce vomiting. If conscious, give 2 glasses of water. Get immediate medical attention. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**

Hydrogen Peroxide irritates respiratory system and, if inhaled, may cause inflammation and pulmonary edema. The effects may not be immediate. Overexposure symptoms are coughing, giddiness and sore throat. In case of accidental ingestion, necrosis may result from mucous membrane burns (mouth, esophagus and stomach). Oxygen rapid release may cause stomach swelling and hemorrhaging, which may product major, or even fatal, injury to organs if a large amount has been ingested. In case of skin contact, may cause burns, erythema, blisters or even necrosis.

**Indication of immediate medical attention and special treatment needed, if necessary**

Hydrogen peroxide at these concentrations is a strong oxidant. Direct contact with the eye is likely to cause corneal damage especially if not washed immediately. Careful ophthalmologic evaluation is recommended and the possibility of local corticosteroid therapy should be considered. Because of the likelihood of corrosive effects on the gastrointestinal tract after ingestion, and the unlikelihood of systemic effects, attempts at evacuating the stomach via emesis induction or gastric linage should be avoided. There is a remote possibility, however, that a Nasogastric or Orogastric tube may be required for the reduction of severe distension due to gas formation.

## Section 5 – Fire Fighting Measures

### Special Hazards arising from the Substance or Mixture

#### Specific hazards arising from the chemical

Oxygen released in thermal decomposition may support combustion.  
Contact with combustible material may cause fire.  
Contact with flammables may cause fire or explosions.  
Risk of explosion if heated under confinement.

#### Fire Extinguishing Media

Water. Do not use any other substance.

#### Advice for Fire Fighters

In closed unventilated containers, risk of rupture due to the increased pressure from decomposition. Contact with combustible material may cause fire on decomposition product releases oxygen which may intensify fire.  
Not sensitivity to Mechanical & Static Discharge.  
Move containers from fire area if you can do it without risk. As in any Fire, wear self-contained breathing apparatus and full protective gear.



## Section 6 – Accidental Release Measures

### Personal precautions, Protective Equipment and Emergency procedures

**Personal Precautions:** Avoid contact with skin, eyes and clothing. Clear area of all unprotected personnel, Wear personal protective equipment. Isolate spill area. Keep people away from and upwind of spill/leak. Eliminate all sources of ignition and remove combustible materials.

Other Combustible materials exposed to hydrogen peroxide should be immediately submerged in or rinsed with large amounts of water to ensure that all hydrogen peroxide is removed.

Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can concentrate) on organic materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in fire.

#### Environmental Precautions

Limited quantity

Flush into sewer with plenty of water.

Large quantities:

If the product contaminates rivers and lakes or drains inform respective authorities.

#### Methods for Containment

Dyke to collect large liquid spills. Stop leak and contain spill if this can be done safely. Small spillage: Dilute with large quantities of water.

#### Methods for cleaning up

Flush area with flooding quantities of water. Hydrogen peroxide may be decomposed by adding sodium meta-bisulfite or sodium sulfite after diluting to about 5%.

## Section 7 – Handling and Storage

### Handling

Use only in well-ventilated areas. Keep/Store away from clothing/ combustible materials. Wear personal protective equipment. Never return unused hydrogen peroxide to original container. Contamination may cause decomposition and generation of oxygen gas which could result in high pressures and possible container rupture. Empty drums should be triple rinsed with water before discarding. Utensils used for handling hydrogen peroxide should only be made of glass, stainless steel, aluminum or plastic. Pipes and equipment should be passivated before first use. Hydrogen peroxide should be stored only in vented containers and transferred only in a prescribed manner.

### Storage

Keep containers in cool areas out of direct sunlight and away from combustibles. Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment. Containers must be vented. Keep/store only in original container. Store rooms or warehouses should be made of non-combustible materials with impermeable floors. In case of release, spillage should flow to safe area. Containers should be visually inspected on a regular basis to detect any abnormalities (swollen drums, increases in temperature, etc.).

### Packaging material

Aluminium: 99,5 %, Stainless steel: 304L / 316L, Approved grades of HDPE

Materials Combustible materials, Copper alloys, galvanized iron. Strong reducing agents. Heavy metals: Iron. Copper alloys. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.



## Section 8 – Exposure Controls / Personal Protection

### Occupational Exposure limit values

STEL-1ppm    TWA-2ppm

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

**Biological Limit Values:** The ingredients in this material do not have a Biological Limit Allocated.

**Engineering Measures:** Ensure adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective equipment

**Eye/ Face Protection:** Use chemical splash-type mono goggles and a full-face shield made of polycarbonate, acetate, polycarbonate/acetate, PETG or thermoplastic.

**Skin and Body Protection:** For body protection wear impervious clothing such as an approved splash protective suit made of SBR rubber, PVC (PVC Outer-shell Polyester Substrate), Gore-Tex (Polyester trilaminate Gore-Tex), or a specialized HAZMAT Splash or Protective Suite (Level A, B, or C). For foot protection, wear approved boots made of NBR, PVC, Polyurethane, or neoprene. Over Boots made of Latex or PVC, as well as firefighter boots or specialized HAZMAT boots are also permitted. DO NOT wear any form of boot or over boot made of nylon or nylon blends. DO NOT USE cotton, wool or leather as these materials react rapidly with higher concentrations of hydrogen peroxide. Completely submerge hydrogen peroxide contaminated clothing or other materials in water prior to drying. Residual hydrogen peroxide, if allowed to dry on materials such as paper, fabrics, cotton, leather, wood or other combustibles, can cause the material to ignite and result in a fire.

**Hand Protection:** For hand protection, wear approved gloves made of nitrile, PVC, or neoprene. DO NOT use cotton, wool or leather for these materials react RAPIDLY with higher concentrations of hydrogen peroxide. Thoroughly rinse the outside of gloves with water prior to removal. Inspect regularly for leaks.

**Respiratory Protection:** If concentrations in excess of 10 ppm are expected, use NIOSH/DHHS approved self-contained breathing apparatus (SCBA) or other approved air-supplied respirator (ASR) equipment (e.g., a full-face airline respirator (ALR)). DO NOT use any form of air-purifying respirator (APR) or filtering face piece (dust mask), especially those containing oxidisable sorbents such as activated carbon.

**Hygiene measures:** Avoid breathing vapors, mist or gas. Clean water should be available for washing in case of eye or skin contamination. .



## Section 9 – Protection Physical and Chemical Properties

Appearance form	:Clear, colorless liquid
Physical State	:Heavy Liquid
Colour	:Colorless
Odour	:Slightly sharp odour.
Odour threshold	: Not applicable
pH	:<= 3.0
Melting point/freezing point	:-0.43 °C
Boiling Point/Range	:152 °C
Flash point	:Not flammable
Evaporation Rate	:> 1 (n-butyl acetate=1)
Flammability (solid, gas)	:Not Flammable
Flammability Limit in Air	:Not applicable
Upper flammability limit	: Not applicable
Lower flammability limit	: Not applicable
Vapour pressure	: 1 mm Hg @ 15.3 °C
Vapour density	: No information available
Density	:1.2 @ 20 °C
Specific gravity	:1.29 @ 20 °C
Water solubility	:Completely soluble @ 30 °C
Solubility	:Soluble in ether, Decomposed by many organic solvents.
Partition coefficient	: -1.5 @ 20 °C
Auto ignition temperature	:Not combustible
Decomposition temperature	:100 °C (adiabatic)
Viscosity, kinematic	:1.17 cP @ 20 °C
Molecular weight	:34 g/mol

## Section 10 – Stability and Reactivity

### Chemical Stability:

Product is stable under normal storage conditions, decomposes on heating. Stable under recommended storage conditions.

### Reactivity:

Strong Oxidizer. Contact with other non-compatible material may cause fire. Reactive and oxidizing agent.

### Possibility of Hazardous Reactions:

Contact with organic substances may cause fire or explosion. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.

Conditions to avoid: Excessive heat; Contamination; Exposure to UV-rays, Mechanical shock, variations.

### Incompatible materials:

Copper alloys, galvanized iron, combustible materials. Strong reducing agents. Heavymetals. Iron. Copper alloys. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.

### Hazardous Decomposition

Products Oxygen which supports combustion. Liable to produce overpressure in container.



## Section 11 – Toxicological Information

### Information on Toxicological effects

LD50 Oral: 50% solution: LD50 > 225 mg/kg bw (rat)  
35 % solution: LD50 1193 mg/kg bw (rat)  
70 % solution: LD50 1026 mg/kg bw (rat)  
LD50 Dermal: 35% solution: LD50 > 2000 mg/kg bw (rabbit)  
70 % solution: LD50 9200 mg/kg bw (rabbit)  
LC50 Inhalation: 50% solution: LC50 > 170 mg/m<sup>3</sup> (rat) (4-hr)  
Hydrogen Peroxide vapors: LC0 9400 mg/m<sup>3</sup> (mouse) (5 - 15 minutes) Hydrogen Peroxide vapors:  
LC50 > 2160 mg/m<sup>3</sup> (mouse)

Serious eye damage/eye irritation : Corrosive. Risk of serious damage to eyes.

Skin corrosion/irritation : Corrosive to skin. Causes severe burns.

Sensitization : Did not cause sensitization on laboratory animals.

### Information on Toxicological effects

Vapors, mists, or aerosols of hydrogen peroxide can cause upper airway irritation, inflammation of the nose, hoarseness, shortness of breath, and a sensation of burning or tightness in the chest. Prolonged exposure to concentrated vapor or to dilute solutions can cause irritation and temporary bleaching of skin and hair. Exposure to vapor, mist, or aerosol can cause stinging pain and tearing of eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Carcinogenicity:** This product contains hydrogen peroxide. The International Agency for Research on Cancer (IARC) has concluded that there is inadequate evidence for carcinogenicity of hydrogen peroxide in humans,

**Mutagenicity:** This product is not recognized as mutagenic by Research Agencies In vivo tests did not show mutagenic effects

**Reproductive toxicity:** This product is not recognized as repro-tox by Research Agencies. No toxicity reproduction in animal studies.

STOT - single exposure: : May cause respiratory irritation.

STOT Target organ effects: ;Eyes, Respiratory System, Skin.

Aspiration hazard : Aspiration risk: may cause lung damage if swallowed

## Section 12 – Ecological Information

### Mobility in Soil

Adsorption coefficient soil: 0.75 Pa.m<sup>3</sup>/mol at 20 °C.

### Ecotoxicity

Fishes, *Pimephales promelas*, LC<sub>50</sub>, 96 h, 16.4 mg/l

Crustaceans, EC<sub>50</sub>, 48 h, 2.4 mg/l

### Persistence and degradability:

Hydrogen peroxide in the aquatic environment is subject to various reduction or oxidation processes and decomposes into water and oxygen. Hydrogen peroxide half-life in freshwater ranged from 8 hours to 20 days, in air from 10 - 20 hours, and in soils from minutes to hours depending upon microbiological activity and metal contamination.

**Bioaccumulation:** Material may have some potential to bio-accumulate but will likely degrade in most environments before accumulation can occur.

**Mobility:** Will likely be mobile in the environment due to its water solubility but will likely degrade over time. **Other Adverse Effects:** Decomposes into oxygen and water. No adverse effects.





## Section 13 – Disposal Considerations

### Waste Treatment methods

Wastes from the manufacture of Basic Chemicals: Records for Disposal must be provided  
Recommendation:

Dispose as Hazardous Waste according to applicable Local, State, and Central Regulations to a licensed professional waste disposal service to dispose of this material.

Do not dispose of with Household Waste.  
Contaminated packaging.

Recommendation:

Dispose of waste according to applicable legislation.

Handle contaminated packages in the same way as the substance itself.

Non-contaminated packages may be recycled.

## Section 14 – Transport Information

### Domestic Land

Proper Shipping Name : HYDROGEN PEROXIDE AQUEOUS SOLUTION  
CAS No : 7722-84-1  
UN No. : 2015  
Dangerous Goods Class : 5.1 Oxidizing Material.  
HAZCHEM Code : 2P



Transport in Bulk/Carboys

## Section 15 – Regulatory Information

Manufacture Storage and Import of Hazardous Chemicals Rule 1989



## Section 16 – Other Information

### **Disclaimer:**

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Prepared by: Technical Service Support, Department  
Revised & Published on: 08-05-2023



# HINDUSTAN ORGANIC CHEMICALS LTD

## MATERIAL SAFETY DATA SHEET

### HEAVY ENDS OF CUMENE

## Section 1 – Chemical Product and Company Identification

Chemical Name	1,4-Diisopropylbenzene
Synonyms	Benzene, 1,4, Bis (1-Methylethyl)-(9CI)
Chemical Formula	C <sub>12</sub> H <sub>18</sub>
CAS Number	100-18-5
UN Number	NA1993
General Use	Laboratory chemicals, Manufacture of substances

Manufacture's Name	Hindustan Organic Chemicals Ltd, Kochi Unit, Ambalamugal P.O.
Address	Ernakulam District, Kerala State, Pincode-682302

Telephone Number for Info:	Website: <a href="http://www.hoclindia.com">www.hoclindia.com</a>
	Email : <a href="mailto:kochi@hoclindia.com">kochi@hoclindia.com</a>
	Telephone Nos: 0484-2720927, 2720911, 2720432. 2720444
	Mob No.9446520911

Emergency Telephone Numbers	Mob No: 9446520911, 0484-2720927(Control Room)
	9072374001(Marketing) 0484-2720808 (Fire Station)

## Section 2 – Hazards Identification

### Classification of Mixture

#### Hazard Statements

Combustible liquid

Causes skin irritation Causes serious eye irritation

May cause respiratory irritation

#### Precautionary Statements Prevention

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep cool

#### Inhalation

IF INHALED: 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

#### Skin

If on skin: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash before reuse

#### Eyes

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

**Storage**

Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.

**Disposal**

Dispose of contents/container to an approved waste disposal facility

**Hazards not otherwise classified (HNOC)**

None identified

**Label Elements**

Signal Word

Warning



Flammable Liquid

### Section 3 – Composition / Information on Ingredients

Chemical Characterization	Mixture of Di-isopropyl benzene isomers & Tri-isopropyl benzene
CAS No	100-18-5
Composition	m-DiPB-30%, o-DiPB-10%, p-DiPB-25% in weight %
De-ionised Water	=<10%

### Section 4 – First Aid Measures

**Description of First Aid measures**

Inhalation:	Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms occur.
Ingestion:	Clean mouth with water and drink afterwards plenty of water.
Skin Contact:	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Most important symptoms and effects	None reasonably foreseeable. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. If symptoms persist, call a physician.
Notes to Physician	Treat symptomatically.



## Section 5 – Fire Fighting Measures

### Suitable Extinguishing Media

#### Explosion Limits

Upper

No data available

Lower

No data available

Sensitivity to Mechanical Impact

No data available

Sensitivity to Static Discharge

No data available

### Specific Hazards Arising from the Chemical

Combustible material. Containers may explode when heated.

### Hazardous Combustion Products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## Section 6 – Accidental Release Measures

### Personal Precautions

Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

### Environmental Precautions

Should not be released into the environment.

### Methods for Containment and Clean up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition.



## Section 7 – Handling and Storage

<b>Handling</b>	Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Handle under an inert atmosphere.
<b>Storage.</b>	Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks and flame. Keep containers tightly closed in a dry, cool and well-ventilated place. In this instance, the container should only be opened remotely by professionals.

## Section 8 – Exposure Controls/Personal Protection

<b><u>Exposure Guidelines</u></b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Engineering Measures</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment.
<b><u>Personal Protective Equipment</u></b>	
<b>Eye/face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection.
<b>Skin and body protection</b>	Use a NIOSH/MSHA or approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
<b>Respiratory Protection</b>	Use a NIOSH/MSHA approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.



## Section 9 – Physical and Chemical Properties

Appearance Form	: Liquid
Colour	: Light amber colour
Odour	: Pungent aromatic
Odour Threshold	: No information available
Melting point/freezing point	: -17 °C
Initial boiling point and boiling range	: 203-243 °C
Flash point/flash point range	: 76 °C
Evaporation rate	: No data available
Explosion limits	: No data available
Vapour pressure	: 5.6
Solubility: at 20 °C	: 0.25 mmHg
Water solubility	: insoluble
Specific gravity	: 5.6
Viscosity, dynamic	: 0.791 at at 20 °C : 0.32 mPa*s
Explosive properties	: No information available
Ignition temperature	: No information available
Refraction index	: No information available
Molar mass (Average)	: 162.27 g/mol

## Section 10 – Stability and Reactivity

Reactive Hazard	None known, based on information available.
Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials	Strong oxidizing agents, Oxidizing agent.
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating gases and vapors, Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ).
Hazardous Polymerization	No information available.



**Section 11 – Toxicological Information**

**Acute toxicity Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Benzene, 1,4-bis(1-methylethyl)-	LD50 > 3200 mg/kg ( Rat )	Not listed	Not listed

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Irritation	No information available.
Sensitization	No information available.
Carcinogenicity	No information available.
Mutagenic Effects	No information available.
Reproductive Effects	No information available.
Developmental Effects	No information available.
Teratogenicity	No information available.
STOT - single exposure	Respiratory system
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.
Symptoms / effects, both acute and delayed	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting
Other Adverse Effects	The toxicological properties have not been fully investigated.

**Section 12 – Ecological Information**

**Ecotoxicity**

Do not empty into drains.

**Persistence and Degradability** Insoluble in water. May persist based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Is not likely mobile in the environment due its low water solubility.





## Section 13 – Disposal Considerations

### Waste Treatment methods

Wastes from the manufacture of Basic Organic Chemicals: Records for Disposal must be provided  
Recommendation: Dispose as Hazardous Waste according to applicable Local, State, and Central regulations to a licensed professional waste disposal service to dispose of this material  
Do not dispose of with Household Waste.

### Contaminated Packaging

Recommendation: Dispose of waste according to applicable legislation.  
Handle contaminated packages in the same way as the substance itself.  
Non-contaminated packages may be recycled.

## Section 14 – Transport Information

### Domestic Land

Proper Shipping Name : HEAVY ENDS OF CUMENE

CAS No : 100-18-5

Dangerous Goods Class : Flammable Liquids

HAZCHEM Code : NA

## Section 15 – Regulatory Information

Manufacture Storage and Import of Hazardous Chemicals Rule 1989

## Section 16 – Other Information

### Disclaimer:

The information and recommendations contained herein are, to the best of Hindustan Organic Chemicals Ltd.'s knowledge and belief, accurate and reliable as of the date issued.

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Prepared by: Technical Services Department  
Revised & Published on: 08-05-2023



# HINDUSTAN ORGANIC CHEMICALS LTD

## MATERIAL SAFETY DATA SHEET

### CUMOX OIL

## Section 1 – Chemical Product and Company Identification

Chemical Name	Phenol Residue Tar
Synonyms	Cumox oil
Chemical Formula	Mixture of Polymeric compounds
CAS Number	NA
UN Number	NA
General Use	Uses as Fuel
Manufacture's Name	Hindustan Organic Chemicals Ltd, Kochi Unit,
Address	Ambalamugal Ernakulam District, Kerala State, Pincode-682302
Telephone Number for Info:	Website: <a href="http://www.hoclindia.com">www.hoclindia.com</a> Email : <a href="mailto:kochi@hoclindia.com">kochi@hoclindia.com</a>
Emergency Telephone Numbers	Telephone Nos: Telephone Nos: 0484-2720927, 2720911 Mob No : 9446520911, 0484-2720927 (Control Room) : 9072374001 (Marketing) : 0484-2720808 (Fire Station)

## Section 2 – Hazards Identification

Classification of Mixture	Inflammable Liquid
Eye & Skin irritation	Cause serious eye irritation and causes severe burn when in contact with liquid. May cause drowsiness or dizziness.
STOT (SE):	NA
Classification Label:	Inflammable Liquid
Packing (CLP)	
Signal word	Danger





<b>Precautionary Statements:</b>	Keep away from heat, hot surfaces, sparks, other ignition sources. No smoking.
<b>If contact with Eyes:</b>	Rinse with water several minutes, remove contact lenses, if present and easy to do. Continue rinsing.
<b>Storage and Disposal:</b>	Store in a well-ventilated place, keep container tightly closed. Store locked up. Dispose of contents/container to Hazardous or special waste collection point.
<b>Other Hazards:</b>	Vapours are moderately irritating to the mucous membranes. After ingestion: Gastric and intestinal problems. Other symptoms: Headache, dizziness, nausea,

### Section 3 – Composition / Information on Ingredients

<b>Chemical Characterization</b>	: Mixture of Heavy Polymeric Compounds contains Paracumyl Phenol, AMS dimer, Acetophenone, DMPC and heavier compounds
<b>CAS No</b>	: NA
<b>Chemical composition</b>	: Acetophenone 2-5%, Di Methyl Phenyl Carbinol 5-10%, Alphamethyl Styrene Dime 15-20%, Phenol 2-5% p-Cumyl Phenol 25-30%, balance Unidentified Heavies
<b>Hazardous</b>	: Yes



## Section 4 – First Aid Measures

### Descriptions of first aid measures

Eye contact	:	Rinse immediately with plenty of water for at least 15 minutes.
Skin contact	:	Take off immediately all contaminated clothing. Immediately get Medical attention Treat by intermittent water washes and PEG to prevent tissue destruction.
Ingestion	:	Rinse mouth immediately and drink plenty of water. Do not induce vomiting. Immediately get medical attention
Inhalation	:	In case of shortness of breath, give oxygen. Move to fresh air. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Seek medical advice.

## Section 5 – Fire Fighting Measures

### Special Hazards arising from the Substance or Mixture

Flash point	NA
Auto ignition temperature	NA
Flammability limits in Air by volume	NA On heating vapour evolves mix with air and form explosive mixtures

Extinguishing media                      Extinguishing power, Foam, Water spray jet  
In enclosed areas: Carbon dioxide.

Advice for Fire Fighters                      HAZCHEM Code: NA

Wear a self-contained breathing apparatus and chemical protective clothing.

Heating will lead to pressure increase of pressure leads of bursting and explosion of containers.

Use fine water spray to cool endangered containers. Move undamaged containers from hazard area.

Do not allow fire water to penetrate into surface or ground water, contaminated extinguishing water and fire residuals must be disposed of in accordance with the regulations of the local authorities.



## Section 6 – Accidental Release Measures

### **Personal precautions, protective equipment and emergency procedures:**

Remove all sources of ignition. Keep upwind. Plug leak if safely possible.  
Do not breathe vapours. Avoid contact with the substance. Wear suitable protective clothing. Provide adequate ventilation, use respirator equipment independent of the ambient air).

### **Environmental precautions:**

Do not allow to penetrate into soil, water bodies or drains.  
Danger to drinking water if soaked into the soil or waters. In case of entry into waterways, soil or drains, inform the responsible authorities.

### **Methods and material for containment and cleaning up:**

Allow the leaked product to solidify if this is possible without endangering people. Take up mechanically, placing in appropriate containers for disposal.  
Absorb with liquid-binding material (sand, diatomaceous earth, or universal binding agents) and place in closed containers for disposal.

### **Final cleaning:**

Collect the rinsing water when cleaning-down contaminated equipment and plant components (to prevent Tar from escaping into deep soil layers).



## Section 7 – Handling and Storage

### Precautions for safe handling

Do not inhale substance. Avoid contact with skin, eyes, and clothing.

Requires good ventilation. The material is to be handled with extreme caution.

Welding operations are permitted only under supervision.

Precautions against fire and explosion:

Keep away from sources of ignition-No smoking.

### Conditions for safe storage including any incompatibilities

Requirements for store rooms and containers:

Keep container tightly closed.

Storage temperature:

Liquid: 60 °C up to 80 °C

Solid: 15 °C up to 25 °C

Keep container in a well-ventilated place

Keep locked up. Only trained personnel may be allowed to enter storage area.

## Section 8 – Exposure Controls / Personal Protection

**Personal Protection Equipment:** safety shoes, overalls, gloves, chemical goggles, respirator.

**Occupational exposure controls**

**Respiratory Protection:** Respiratory protection must be worn whenever the levels have been exceeded

Use filter type ABEK.

**Protective Gloves:**

**Protective gloves:** Neoprene, PVC Breakthrough time 140min. (Neoprene), 75min. (PVC).

Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

**Eye protection:** Goggles or face protection shield

**Body protection:** Wear suitable protective clothing material, safety shoes

**General Hygiene Measures:** Keep away from food, drink and feeding stuffs.

Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact

Repeated or prolonged skin contact.

Avoid inhalation of vapour, ensure that eyewash stations and safety showers are close to the workstation location.

**Explosion protection required.**

Provide good ventilation and/or an exhaust system in the work area.



## Section 9 – Physical and Chemical Properties

### Information on basic physical and chemical properties

Appearance:	Form: Liquid (>40°C) , Solid (< 30 °C) Colour: Dark Brown to Black
Odour:	Aromatic pungent odour
Specific gravity:	0.97 at 15°C
Melting point/freezing point:	NA
Initial boiling point and boiling range:	NA
Evaporation rate:	No data available
Explosion limits:	NA
Vapour pressure:	NA
Vapour density:	NA
Water solubility:	Cumyl Phenol & Phenol compounds soluble in water At 70-80°C
Partition coefficient	NA
Auto-ignition temperature:	NA
Viscosity, dynamic:	15cS at 100° C
Oxidizing characteristics:	No data available
Molecular weight	NA
Relative vapour density at 20°C	NA

## Section 10– Stability and Reactivity

### Chemical stability

Product is stable under normal storage conditions.

Reactivity : Data not available

Possibility of hazardous reactions: No dangerous reactions are known

Incompatible materials: Oxidising materials

### Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide and Carbon dioxide.

Thermal decomposition : None



## Section 11 – Toxicological Information

### Information on Toxicological effects

#### Toxicological Effects:

**Acute Toxicity (Oral)** : Toxic if swallowed,

**Acute Toxicity (Dermal)** : Toxic in contact with skin.

**Acute Toxicity (Inhalative)** : Toxic if inhaled.

**Skin corrosion/Irritation** : Causes severe skin burns and eye damage, sensitive to the respiratory tract

**Aquatic Toxicity:** Toxic to aquatic life with long lasting effects.

**Specific Target Organ Toxicity (Repeated Exposure):** STOT RE May cause damage to organs through prolonged or repeated exposure.

May cause damage to organs through prolonged or repeated exposure.

**Organs affected:** Skin, Eye , Respiratory system Liver, Kidneys.

**In case of inhalation:**

Mucous membrane irritation, cough, shortage of breath, damage of respiratory tract.

**After contact with skin:**

Strong skin absorption as main danger of Phenolic Tar poisoning at the workplace with severe skin burn and systemic absorption causes kidney and liver damage

## Section 12 – Ecological Information

**General information** : Do not allow to enter into ground-water, surface water or drains.

**Mobility in soil** : The soil sorption coefficient indicates a low sorption of Phenol Tar on soil.

**Aquatic toxicity** : Toxic to aquatic life with long lasting effects.





## Section 13 – Disposal Considerations

### Waste Treatment methods

Product Wastes from the manufacture of Basic Organic Chemicals: Records for Disposal must be provided.

Recommendation: Dispose as Hazardous Waste according to applicable Local, State, and Central regulations to a licensed professional waste disposal service to dispose of this material. Do not dispose of with Household Waste.

### Contaminated Packaging

Recommendation: Dispose of waste according to applicable legislation.

Handle contaminated packages in the same way as the substance itself.

Non-contaminated packages may be recycled.

## Section 14 – Transport Information

### Domestic Land

Proper Shipping Name : CUMOX OIL

CAS No : NA

UN No. : NA

Dangerous Goods Class : NA

HAZCHEM Code : NA

Transport in Bulk

## Section 15 – Regulatory Information

Manufacture Storage and Import of Hazardous Chemicals Rule 1989



## Section 16 – Other Information

### **Disclaimer:**

The information and recommendations contained herein are, to the best of Hindustan Organic Chemicals Ltd.'s knowledge and belief, accurate and reliable as of the date issued. This information and recommendation are offered for the user's consideration and examination. If the user repackages the product, it is the user's responsibility to ensure health and safety precautions and other necessary information are included with the container. Appropriate warnings and safe handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited, except to the extent required by law. Republication of this document in whole or in part is not permitted.

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