



12/B, GIDC DAHEJ, Tal: VAGRA, Dist: BHARUCH – 392130, GUJARAT.

**MATERIAL SAFETY DATA SHEET**

Approved By: DPL HSE

DPLD-004-QAQC-406-0006

**Section-1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT NAME** : Isopropyl alcohol  
**SYNONYM** : 1-methylethanol, 1-methylethylalcohol, 2-hydroxypropane, dimethyl Carbinol/ethyl carbinol, hydroxy propane/IPA/i-Propanol/Iso ethylcarbinol, Propane -2-ol, sec-propanol.  
**PROPER SHIPPING NAME** : Isopropyl alcohol  
**PRODUCT USE** : Industrial Use / Analytical Reagent  
**SUPPLIER** : Deepak Phenolics Limited, 12/B/1, GIDC DAHEJ, Village: Ambheta, Taluka: Vagra, District: Bharuch 392130 Gujarat, India.

**Emergency Coordination Centre contact details:**



Deepak Phenolics Limited	Lab / Safety / Fire Control Room / Security	02641-280703/02641-280710 /02641-280701/ 02641-280722
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**Section 2 – HAZARD IDENTIFICATION**

**3.1 Classification of the substance or mixture:**

Health	Environmental	Physical
Eye irritation (Category 2A), H319 Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336	Not available	Flammable liquids (Category 2), H225

**3.2 GHS Label:**

<b>Symbols:</b> Flammable	Harmful
	

**Single word : Danger**

**Hazard Statements**

H225 Highly flammable liquid and Vapour

H319 Causes serious eye irritation.

H333 May be harmful if inhaled.

H335 May cause respiratory irritation

H336 May cause drowsiness or dizziness.

**Precautionary Statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.

P241 Use explosion- proof electrical, lighting, ventilating equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing vapors, mist, spray.



12/B, GIDC DAHEJ, Tal: VAGRA, Dist: BHARUCH – 392130, GUJARAT.

**MATERIAL SAFETY DATA SHEET**

DPLD-004-QAQC-406-0006

P264 Wash hands thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear eye protection, face protection, protective clothing, and protective gloves.

P303+P351+P338+P337+P313 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 attention

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P403+P235: Store in a well-ventilated place. Keep cool

P 501 Dispose of contents and container according to state/provincial and municipal regulations.

**3.3 Hazard ratings:**

NFPA HAZARD CODES	RATINGS SYSTEM	
	0 = No Hazard	
	1 = Slight Hazard	
	2 = Moderate Hazard	
	3 = Serious Hazard	
	4 = Severe Hazard	
<b>HEALTH:</b> 1 <b>FLAMMABILITY:</b> 3 <b>REACTIVITY:</b> 0 <b>SPECIFIC HAZARD</b>		

**3.4 Route of entry:**

Skin Contact	Skin Absorption	Eye Contact	Inhalation	Ingestion
YES	YES	YES	YES	YES

**3.5 Health effects: Protective equipment:**

HANDS	EYES	BODY	RESPIRATORY
YES	YES	YES	YES

**3.6 Health Effect: Hazards**

Carcinogenicity	NTP listed	IARC cancer review group	OSHA Regulated
Not considered as a carcinogen.	NOT LISTED	Group 3	NO

**Section 3 – COMPOSITION & INFORMATION ON INGREDIENTS**

Ingredients / Hazardous	CAS No.	% By Weight
Isopropyl alcohol / Yes	67-63-0	<= 100

**Section 4 – FIRST AID MEASURES**

**After Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Inhalation:** Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-



12/B, GIDC DAHEJ, Tal: VAGRA, Dist: BHARUCH – 392130, GUJARAT.

**MATERIAL SAFETY DATA SHEET**

DPLD-004-QAQC-406-0006

mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**After skin contact:** Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean Shoes thoroughly before re use.

**After eye contact:** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Ingestion:** Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Advice to physician:** Treat according to symptoms.

**Section 5 – FIRE FIGHTING MEASURES**

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):** Carbon oxides (CO, CO<sub>2</sub>) expected to be the primary hazardous combustion product

**Hazardous thermal decomposition products:** Decomposition products may include the following materials: carbon dioxide, carbon monoxide

**Special protective actions for fire-fighters:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Firefighting procedures:** Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

**Section 6 –ACCIDENTAL RELEASE MEASURES**

**Personnel protection procedure to be followed in case of leak or spill:** Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

**Procedure of personal precaution:** Wear personal protective equipment.

**Methods for cleaning up:** Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

**Section 7 –HANDLING AND STORAGE**

**Handling:** Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

**Storage:** Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): Flammable Liquids.



12/B, GIDC DAHEJ, Tal: VAGRA, Dist: BHARUCH – 392130, GUJARAT.

MATERIAL SAFETY DATA SHEET

DPLD-004-QAQC-406-0006

**Section 8 –EXPOSURE CONTROL AND PERSONAL PROTECTION**

HANDS	EYES	BODY	RESPIRATORY
			

**8.1 Control parameters:**

**EXPOSURE LIMITS:** TWA: 983 STEL: 1230 (mg/m<sup>3</sup>) [Australia] TWA: 200 STEL: 400 (ppm) from ACGIH (TLV) [United States] [1999] TWA: 980 STEL: 1225 (mg/m<sup>3</sup>) from NIOSH TWA: 400 STEL: 500 (ppm) from NIOSH TWA: 400 STEL: 500 (ppm) [United Kingdom (UK)] TWA: 999 STEL: 1259 (mg/m<sup>3</sup>) [United Kingdom (UK)] TWA: 400 STEL: 500 (ppm) from OSHA (PEL) [United States] TWA: 980 STEL: 1225 (mg/m<sup>3</sup>) from OSHA (PEL) [United States].

**Engineering measures:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to engine protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Eye Protection:** Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Hand Protection:** Wear gloves of impervious material.

**Body Protection:** Impervious clothing, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace

**Section 9 –PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	Form: liquid, Colourless
Odour	alcohol-like
Odour threshold	3-610 ppm, 8-1499 mg/m <sup>3</sup>
pH	No data available
Melting point	-88 °C
Boiling Point	82 °C
Critical temperature	235 °C
Critical Pressure	47600 hPa
Flash Point	12 °C
Relative evaporation rate (butyl acetate = 1)	2.3
Flammability	Highly flammable liquid and vapor.
Vapor Pressure	44 hPa (20 °C)
Relative vapor density 20°C	2.1
Specific gravity 20 °C	0.786
Molecular mass	60.01g/mol
Molecular formula	C3-H8-O
Solubility	Soluble in water, Soluble in ethanol, Soluble in Acetone, Soluble in Oils and salts and Soluble in chloroform.



12/B, GIDC DAHEJ, Tal: VAGRA, Dist: BHARUCH – 392130, GUJARAT.

**MATERIAL SAFETY DATA SHEET**

DPLD-004-QAQC-406-0006

Partition coefficient n-octanol/water (ies)	Log Pow:0.05 P( Weight of evidence approach other 25 °C
Auto-ignition temperature	399 ° C
Kinematic viscosity 25 °C	2.5316 cst
Explosion limit	2-13 vol% , 50-350 g/M3

**Section 10 –CHEMICAL STABILITY AND REACTIVITY INFORMATION**

**10.1 Reactivity:** Upon combustion CO and CO<sub>2</sub> are formed. Violent to explosive reaction with (strong) oxidizers. Prolonged storage/ in large quantities: may form peroxide.

**10.2 Chemical stability:** Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions:** Not available.

**10.4 Conditions to avoid H319):** It is a highly flammable liquid and vapour. Hence, heat, flames and sparks strictly avoided, Extremes of temperature and direct sunlight is also not favorable.

**10.5 Material to avoid: Incompatible materials:** May react violently with alkalis. May react violently with acids.

**10.6 Hazardous decomposition products:** Hazardous decomposition products formed under fire conditions.  
- Carbon oxides other decomposition products.

**Section 11 –TOXICOLOGICAL INFORMATION**

**11.1 Rout of Entry:** Absorbed through skin, dermal contact, eye contact, and inhalation.

**11.2 Chronic Effect on Human:** CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Development toxin [POSSIBLE]. May cause damage to the following organs: kidneys, liver, skin, central nervous system (CNS).

**11.3 Toxicity to Animals:** WARNING: THE LC<sub>50</sub> VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD<sub>50</sub>): 3600 mg/kg [Mouse]. Acute dermal toxicity (LD<sub>50</sub>): 12800 mg/kg [Rabbit]. Acute toxicity of the vapor (LC<sub>50</sub>): 16000 8 hours [Rat].

**11.4 Causes serious eye irritation (H319):** Causes serious eye irritations. The adverse symptoms may include sever pain or irritation, watering and redness.

**11.5 Harmful if inhaled (H333 & H 336):** Breathing small amount during normal handling does not have much effect, however, breathing large amounts may have harmful effects on the respiratory system and mucous membranes and also in brain (Central nervous system depression - headache, dizziness, drowsiness, stupor, incoordination, unconsciousness, coma and possible death), peripheral nerve and sensation, blood, urinary system, and liver.

Acute potential health effects (H335) by swallowing large amounts may cause gastrointestinal tract irritation with nausea, vomiting and diarrhea, abdominal pain. It also may affect the urinary system, cardiovascular system, sense organs, behavior or central nervous system (somnolence, generally depressed activity, irritability, headache, dizziness, and drowsiness) liver, and respiratory system (breathing difficulty). Chronic Potential Health Effects: May cause defatting of the skin and dermatitis and allergic reaction. May cause adverse reproductive effects based on animal data (studies).

**Section 12 –ECOLOGICAL INFORMATION**

**12.1 Eco toxicity data:**

**12.1.1 Toxicity to fish:** LC<sub>50</sub> - Pimephales promelas (fathead minnow) - 9,640.00 mg/l - 96 h (2- Propanol)

**12.1.2 Toxicity to alga:** EC<sub>50</sub> - Desmodesmus subspicatus (green algae) - > 2,000.00 mg/l - 72 h (2-Propanol) EC<sub>50</sub> - Algae - > 1,000.00 mg/l - 24 h (2-Propanol)

**12.2 Persistence and degradability:** Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test)data on mobility of the substance available



12/B, GIDC DAHEJ, Tal: VAGRA, Dist: BHARUCH – 392130, GUJARAT.

**MATERIAL SAFETY DATA SHEET**

DPLD-004-QAQC-406-0006

**12.3 Bio accumulative potential:** Not available.

**12.4 Results of PBT assessment Persistence and Degradation:** This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

**12.5 Other adverse effects:** Not available.

**Section 13 – DISPOSAL CONSIDERATION**

**Local Legislation:** Disposal should be in accordance with applicable regional, national, and local laws and regulations. This product should not be dumped, spilled, rinsed or washed into sewers or public waterways.

**13.1 Recommended disposal methods for the substance / mixture:** Burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

**13.2 Recommended disposal methods for contaminated packaging:** Dispose of as unused product.

**13.3 Waste management measures that control exposure of humans and environment:** Proceed in accordance with valid health, air and water legislative regulations.

**13.4 Waste regulation:** Follow local regulations.

**Section 14 – TRANSPORT INFORMATION**

Land transport (ADR/RID) / Air transport (IATA) / Sea transport (IMDG)

**14.1 UN Number:** 1219

**14.2 Proper Shipping Name:** ISOPROPANOL

**14.3 Hazard Class:** 3

**14.4 Packing group:** II

**14.5 Environmentally hazardous:** no

**14.6 Special transport precautionary measures:** Not available.

**Section 15 – REGULATORY INFORMATION**

Safety, health and environmental regulations/legislation specific for the substance or mixture

**National legislation:** Not available.

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**WHMIS (Canada):** CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2B: Material causing other toxic effects (TOXIC).

**HMIS (U.S.A.):**

**Health Hazard:** 2

**Fire Hazard:** 3

**Reactivity:** 0

**Personal Protection:** h

**National Fire Protection Association (U.S.A.):**

**Health:** 1

**Flammability:** 3

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**

Gloves, lab coat, dust respirator, splash goggles. Be sure to use an approved/certified respirator or equivalent.

**Section 16 – OTHER INFORMATION**



12/B, GIDC DAHEJ, Tal: VAGRA, Dist: BHARUCH – 392130, GUJARAT.

**MATERIAL SAFETY DATA SHEET**

DPLD-004-QAQC-406-0006

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