# SAFETY DATA SHEET
# ISOPROPYL ALCOHOL

## 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

| | |
|---|---|
| PRODUCT NAME | ISOPROPYL ALCOHOL |
| PRODUCT NO. | PAT536 |
| SYNONYMS, TRADE NAMES | DIMETHYL CARBINOL, IPA, ISOPROPANOL, PROPAN-2-OL |
| SUPPLIER | FLINT HIRE & SUPPLY LTD<br>QUEENS ROW<br>LONDON<br>SE17 2PX<br>Tel. 020 7703 9786<br>Fax. 020 7708 4189<br>Email. sales@flints.co.uk |
| EMERGENCY TELEPHONE | 020 7703 9786 |

## 2 HAZARDS IDENTIFICATION

Highly flammable. Irritating to eyes. Vapours may cause drowsiness and dizziness.

CLASSIFICATION Xi;R36. F;R11. R67.

## 3 COMPOSITION/INFORMATION ON INGREDIENTS

| Name | EC No. | CAS-No. | Content | Classification |
|---|---|---|---|---|
| PROPAN-2-OL | 200-661-7 | 67-63-0 | 95-100 % | F;R11 Xi;R36 R67 |

The Full Text for all R-Phrases are Displayed in Section 16

| | |
|---|---|
| EU INDEX NO. | 603-117-00-0 |
| CAS-No. | 67-63-0 |

## 4 FIRST-AID MEASURES

GENERAL INFORMATION

Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

INHALATION

Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Keep the affected person warm and at rest. Get prompt medical attention.

INGESTION

NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Drink plenty of water. DO NOT induce vomiting. Get medical attention immediately.

SKIN CONTACT

Remove affected person from source of contamination. Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above. Get medical attention immediately.

EYE CONTACT

Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

## 5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Use: Water spray, fog or mist. Alcohol resistant foam. Carbon dioxide (CO2). Dry chemicals, sand, dolomite etc.

SPECIAL FIRE FIGHTING PROCEDURES

Move container from fire area if it can be done without risk. Containers close to fire should be removed or cooled with water. Cool containers exposed to flames with water until well after the fire is out. Keep run-off water out of sewers and water sources. Dike for water control. If risk of water pollution occurs, notify appropriate authorities. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

UNUSUAL FIRE & EXPLOSION HAZARDS

Heat may cause the containers to explode. Solvent vapours may form explosive mixtures with air. May travel considerable distance to source of ignition and flash back. May ignite at high temperature. Vapours are heavier than air and may spread near ground to sources of ignition.

SPECIFIC HAZARDS

Fire creates: Carbon monoxide (CO). Carbon dioxide (CO2).

## 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes.

ENVIRONMENTAL PRECAUTIONS

Do not allow to enter drains, sewers or watercourses. Avoid release to the environment. To prevent release, place container with damaged side up. Contain spillages with sand, earth or any suitable adsorbent material.

SPILL CLEAN UP METHODS

Ventilate well, stop flow of gas or liquid if possible. Remove ignition sources. Do not allow chemical to enter confined spaces such as sewers due to explosion risk. Sewers designed to preclude formation of explosive concentrations of vapour may be permitted. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Remove sources of ignition. Stop leak if possible without risk. Let evaporate. Keep out of confined spaces because of explosion risk. Provide ventilation and confine spill. Do not allow runoff to sewer. Should be prevented from entering drains. Do not contaminate water sources or sewer. Inform Authorities if large amounts are involved. Dike far ahead of larger spills for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Avoid contact with skin or inhalation of spillage, dust or vapour. Clean-up personnel should use respiratory and/or liquid contact protection.

## 7 HANDLING AND STORAGE

USAGE PRECAUTIONS

Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Avoid acids, moisture, and combustible materials. Wear full protective clothing for prolonged exposure and/or high concentrations. Do not use in confined spaces without adequate ventilation and/or respirator. Static electricity and formation of sparks must be prevented. Storage tanks and other containers must be grounded. Use explosion proof electric equipment. Do not handle broken packages without protective equipment.

STORAGE PRECAUTIONS

Flammable/combustible - Keep away from oxidisers, heat and flames. May attack some plastics, rubber and coatings. Ground container and transfer equipment to eliminate static electric sparks. Take precautionary measures against static discharges. Do not store near heat sources or expose to high temperatures. Unsuitable containers: aluminium. Keep away from food, drink and animal feeding stuffs.

STORAGE CLASS

Flammable liquid storage.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

| Name | Std | LT - ppm | LT - mg/m3 | ST - ppm | ST - mg/m3 |
|---|---|---|---|---|---|
| PROPAN-2-OL | OES | 400 ppm | 999 mg/m3 | 500 ppm | 1250 mg/m3 |

INGREDIENT COMMENTS

WEL = Workplace Exposure Limits

PROTECTIVE EQUIPMENT

ENGINEERING MEASURES

Provide adequate general and local exhaust ventilation. Must not be handled in confined space without sufficient ventilation. Provide sufficient ventilation during operations which cause vapour formation.

RESPIRATORY EQUIPMENT

No specific recommendation made, but respiratory protection must be used if the general level exceeds the Recommended Workplace Exposure Limit. Respiratory protection must be used if air contamination exceeds acceptable level. If ventilation is insufficient, suitable respiratory protection must be provided. Gas cartridge suitable for organic substances.

HAND PROTECTION

Use suitable protective gloves if risk of skin contact. Use protective gloves made of: Butyl rubber. P.T.F.E (Teflon). Viton rubber (fluor rubber). Nitrile. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

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EYE PROTECTION

Wear approved chemical safety goggles where eye exposure is reasonably probable.

OTHER PROTECTION

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Provide eyewash station.

HYGIENE MEASURES

DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| APPEARANCE | Liquid |
| COLOUR | Colourless |
| ODOUR | Characteristic Odour of alcohol |
| SOLUBILITY | Miscible with water. Miscible with Organic solvents |

| | | | |
|---|---|---|---|
| MOL. WEIGHT | 60.1 | BOILING POINT (°C) | 82 - 83 760 mm Hg |
| RELATIVE DENSITY | 0.785 20 | VAPOUR DENSITY (air=1) | 2.08 |
| VAPOUR PRESSURE | 4100 Pa 20 | EVAPORATION RATE | 1.5 BuAc=1 |
| VOLATILE BY VOL. (%) | 100 | VISCOSITY | 2.43 mPas 20 |
| ODOUR THRESHOLD, LOWER | 30 ppm | ODOUR THRESHOLD, UPPER | @30 ppm |
| FLASH POINT (°C) | 12 CC (Closed cup). | AUTO IGNITION TEMPERATURE (°C) | 425 |
| FLAMMABILITY LIMIT - LOWER(%) | 2 | FLAMMABILITY LIMIT - UPPER(%) | 12 |
| PARTITION COEFFICIENT (N-Octanol/Water) | 0.05 | | |

## 10 STABILITY AND REACTIVITY

STABILITY

Stable under normal temperature conditions and recommended use.

CONDITIONS TO AVOID

Avoid heat, flames and other sources of ignition. Avoid exposure to high temperatures or direct sunlight. Avoid contact with acids and oxidising substances.

MATERIALS TO AVOID

Strong oxidising substances. Strong acids. Alkali metals.

HAZARDOUS DECOMPOSITION PRODUCTS

Toxic gases/vapours/fumes of: Carbon monoxide (CO). Carbon dioxide (CO2).

## 11 TOXICOLOGICAL INFORMATION

TOXIC DOSE 1 - LD 50 5840 mg/kg (oral rat)

INHALATION

Vapours may irritate the respiratory system and cause coughing, asthmatic breathing and breathlessness. Prolonged inhalation of high concentrations may damage respiratory system. Central nervous system depression. Vapours may cause headache, fatigue, dizziness and nausea.

INGESTION

Swallowing concentrated chemical may cause severe internal injury. May cause nausea, headache, dizziness and intoxication. Ingestion of large amounts may cause unconsciousness. Nausea, vomiting. Headache. Drowsiness, dizziness, disorientation, vertigo. Narcotic effect. Harmful: danger of serious damage to health by prolonged exposure if swallowed.

SKIN CONTACT

Repeated exposure may cause skin dryness or cracking. Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

EYE CONTACT

Extreme irritation of eyes and mucous membranes, including burning and tearing. Risk of corneal damage.

ROUTE OF ENTRY

Inhalation. Ingestion. Skin and/or eye contact.

TARGET ORGANS

Central nervous system. Eyes. Gastro-intestinal tract. Skin.

MEDICAL SYMPTOMS

Extreme irritation of eyes and mucous membranes, including burning and tearing. Visual disturbances, incl. blurred vision. Nausea, vomiting. Headache.

# ISOPROPYL ALCOHOL

## 12 ECOLOGICAL INFORMATION

| | |
|---|---|
| LC 50, 96 Hrs, FISH mg/l | 9600 |
| EC 50, 48 Hrs, DAPHNIA, mg/l | 4600 |

MOBILITY

This product will dissolve rapidly in water If raleased to soil it will evaporate at a rapid rate Dissolves in water. Lost within a day by evaporation and dissolution.\n

BIOACCUMULATION

Does not bioaccumulate significantly

DEGRADABILITY

Readily biodegradable meeting the 10 day criterion. Expected to degrade under anaerobic conditions. Oxidises rapidly by photo-chemical reaction in air. Integrated environmental half-life expected to be 1 - < 10 days. Dominant loss process - biodegradation. Poses a significant risk of oxygen depletion in aquatic systems.

ACUTE FISH TOXICITY

Practically non toxic

## 13 DISPOSAL CONSIDERATIONS

GENERAL INFORMATION

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority. Contaminated packages must be completely emptied before sending away for laundering and re-use

DISPOSAL METHODS

Dispose of waste and residues in accordance with local authority requirements. Confirm disposal procedures with environmental engineer and local regulations. Do not allow runoff to sewer, waterway or ground. Contact specialist disposal companies.

## 14 TRANSPORT INFORMATION

| | | | |
|---|---|---|---|
| PROPER SHIPPING NAME | ISOPROPANOL (ISOPROPYL ALCOHOL) | | |
| UN NO. ROAD | 1219 | ADR CLASS NO. | 3 |
| ADR CLASS | Class 3: Flammable liquids. | ADR PACK GROUP | II |
| HAZARD NO. (ADR) | 33 Highly flammable liquid (flash-point below 23°C). | | 33 |
| ADR LABEL NO. | 3 | HAZCHEM CODE | 2YE |
| RID CLASS NO. | 3 | RID PACK GROUP | II |
| UN NO. SEA | 1219 | IMDG CLASS | 3 |
| IMDG PACK GR. | II | EMS | 3-06 |
| MARINE POLLUTANT | No. | UN NO. AIR | 1219 |
| AIR CLASS | 3 | AIR PACK GR. | II |

## 15 REGULATORY INFORMATION

LABELLING

Irritant Highly Flammable

RISK PHRASES

| | |
|---|---|
| R11 | Highly flammable. |
| R36 | Irritating to eyes. |
| R67 | Vapours may cause drowsiness and dizziness. |

# ISOPROPYL ALCOHOL

SAFETY PHRASES

| | |
|---|---|
| S9 | Keep container in a well-ventilated place. |
| S16 | Keep away from sources of ignition - No smoking. |
| S25 | Avoid contact with eyes. |
| S26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| S51 | Use only in well-ventilated areas. |
| S60 | This material and its container must be disposed of as hazardous waste. |

ENVIRONMENTAL LISTING

Environmental Protection Act 1990 Hazardous Waste Regulations 2005

EU DIRECTIVES

Dangerous Substance Directive 67/548/EEC. Dangerous Preparations Directive 1999/45/EC.

APPROVED CODE OF PRACTICE

Safety Data Sheets for Substances and Preparations. Classification and Labelling of Substances and Preparations Dangerous for Supply.

GUIDANCE NOTES

Workplace Exposure Limits EH40.

NATIONAL REGULATIONS

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. No. 1689. Health and Safety at Work Act (As Amended) 1974 Control of Substances Hazardous to Health Regulations 2002 (as amended) The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2007 (CDG 2007)

## 16 OTHER INFORMATION

| | |
|---|---|
| REVISION DATE | 12/02/2007 |
| REV. NO./REPL. SDS GENERATED | ISSUE NO 5 |
| SDS NO. | 1003 |

SAFETY DATA SHEET STATUS

Approved.

RISK PHRASES IN FULL

| | |
|---|---|
| R11 | Highly flammable. |
| R36 | Irritating to eyes. |
| R67 | Vapours may cause drowsiness and dizziness. |