



OAK INDUSTRIAL SUPPLIES

“THE INDUSTRIAL SUPPLIES PEOPLE”

HEALTH & SAFETY DATA SHEET

1 OF 6

IDENTIFICATION OF SUBSTANCE

Name of product: **ACETONE**
Chemical Name: 2 PROPANONE

FIRE AND EXPLOSION HAZARD DATA

Flash Point: -17.8°C Auto-Ignite Temperature: 538°C
Hazardous Combustion Products: CARBON OXIDES

PHYSICAL AND CHEMICAL PROPERTIES

Chemical Synonyms:	DIMETHYL KEYTONE	BETA KETOPROPANE	
Molecular Mass:	58.08	Lethal Dosage:	9750 mg/Kg (rat)
Solubility in Water:	Complete	Specific Gravity @ 20°C:	0.791 Kg/l
Vapour Density:	2.0 air = 1	Vapour Pressure:	181 mmHg 20°C
Freezing Point °C:	-95°C mp	Boiling Point °C:	55.8-56.6°C
Viscosity:	0.32 mps 20°C	pH:	Neutral

Formula: C3H6O

HAZARD CLASSIFICATION INFORMATION

Risk Phrases:	11.	Secondary Risk:	
Safety Phrases:	9,16,23,33.	Conveyance Class:	3
Primary Risk:	HIGHLY FLAMMABLE	ADR HIN:	33
S.I. Number:	1090	EINECS No:	200-662-2
ADR Class:	3, FLAMMABLE	IMDG Code (Page):	3102
Tremcard No:	30/30G30	IMCO Class:	3.1, Flammable
IATA Special Provisions:	N/A	Packaging Group:	II
UN Number:	1090	UK Customs -	
CAS Number:	67-64-1	Number:	CUS 10079
Hazchem Code:	2 (Y) E		

CPL

Risk Phrases: HIGHLY FLAMMABLE

Safety Phrases: Keep container in a well ventilated place. Keep away from sources of ignition- No smoking. Do not breathe vapour. Take precautionary measures against static discharges.

COMPOSITION/INFORMATION ON INGREDIENTS

Contains 99.5% wt (min) of Acetone and 0.3 % wt (max) of water.
Specification meets the requirements of BS 509, ASTM D 32G.

HAZARDS IDENTIFICATION

Physical and Environmental: Non hazardous to living resources (4)
Toxic to aquatic life.
See Ecological information.

Adverse Human Health Affects: May be absorbed systematically by inhalation or ingestion. Irritates the eyes, skin and respiratory tract. Liquid destroys the skins natural oils. Affects the nervous system. See toxicological information.

FIRST AID MEASURES

Inhalation: Remove from exposure. Keep warm and at rest. If there is respiratory distress give Oxygen. If respiration stops or shows signs of failing, apply artificial respiration. Do not use mouth to mouth ventilation. Obtain medical attention urgently.

Skin Contact: Immediately wash with plenty of water, preferably under shower if affected area is large enough to warrant this. Use soap if available. Remove contaminated clothing and thoroughly clean and dry before re-use. Obtain medical attention if irritation persists or if blistering occurs.

Eye Contact: Irrigate eye thoroughly with water for at least 10 minutes, holding the eyelids apart if necessary. Obtain medical attention.

Ingestion: Wash out mouth with water, obtain medical attention. Do not induce vomiting. Give water to drink.

Medical Assistance: Symptomatic treatment and supportive therapy as indicated.

FIRE FIGHTING MEASURES

Special Protective Equipment: Highly flammable liquid. Toxic and explosive risk in a fire. Therefore fire fighters should wear breathing apparatus and appropriate protective clothing (8) – see Exposure Control. Under severe circumstances, consider evacuation (8).

Suitable Extinguishing Media: Select extinguishing medium appropriate to other materials involved in and/or to the circumstances of the fire. Use fog equipment – in the absence of fog equipment a fine spray may be used (8). For a small fire, use Carbon Dioxide, Dry Chemical Powder, BCF or Alcohol Resistant Foam. For a large fire, use Alcohol Resistant Foam or Water Fog. DO NOT use Water Jets! Keep stored drums cool by spraying with water from a distance.

Special Exposure Hazards: Highly flammable liquid – stable under normal conditions. Flash Pt. -17.8°C , Explosive Limits 2.5–13% v/v. The vapours readily form ignitable and explosive mixtures with air at normal temperatures. The vapour is heavier than air and may travel along the ground, hence distant ignition is possible. Can be violent or explosively reactive (8), when in contact with strong oxidising agents and other incompatible substances. See Stability and Reactivity.

ACCIDENTAL RELEASE MEASURES

Clean Up Methods: Small and large spillages contain/prevent, by any means available, spillage from entering drains or water courses. Contain with sand or earth and transfer to suitable container. Air to evaporate before disposal by licensed contractor. Wash site of spillage with plenty of water and detergent. Dispose of hazard waste in accordance with waste disposal and water authority regulations. See disposal considerations and environmental precautions.

Personal Precautions: Avoid contact with liquid. Ventilate area to dispel residual vapours. Protective clothing and breathing apparatus should be worn when dealing with spillage (8). See Exposure Control. Remove all sources of ignition. Consider evacuation (8) under severe circumstances.

Environmental Precautions: Cover drain openings to prevent entrance into water courses. However, if size of spillage warrants and has contaminated water courses, drains or vegetation, advise appropriate authorities. Evacuate personnel from area.

STORAGE AND HANDLING

Storage: Store in a well ventilated area away from incompatible chemicals or materials. See Stability and Reactivity. Avoid exposure direct from sunlight, sources of ignition and a build up of anti static electricity. Keep containers tightly closed, see Fire Fighting Measures. Obtain specialist advice in the choice of electrical equipment. Ensure pipelines and metallic parts of tanks are earthed before and during unloading. Store in mild steel. Glass may be used for small volumes. Do not store in vessels lined with Viton, Polyethylene, PVC and certain rubbers.

Handling: Exposure by inhalation or skin contact should be minimised by good industrial hygiene practice. Wear appropriate protective clothing, see Exposure Control. Safety showers and eyebaths should be available in areas where accidental exposure is possible. Precautions must be taken when performing operations such as evaporation or distillation, on prolonged stored solvent blends. During pumping and handling operations, the pump rate should not exceed 7m/s, to avoid static discharge. Potential sources of ignition must be avoided by the use of spark free tools, rubber soled footwear and flame-proof equipment.

EXPOSURE CONTROL/PERSONAL PROTECTION

Hands: Wear PVC or rubber gloves.

Eyes: Wear chemical goggles. Eyebaths should be provided where accidental exposure may occur.

Skin: Wear rubber boots. Where significant exposure is possible (e.g. dealing with spillage or fire) wear PVC suit.

Respiratory: Occupational exposure limits assigned by HSE (1) and ACGIH (2):-
 OES-LTEL= 750ppm (1780mgm-3), OES-STEL= 1500PPM (3560MGM-3) HSE (1).
 In the event where significant exposure is possible, such as fire, wear self contained breathing apparatus – see Stability and Reactivity.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colourless Liquid Odour: Characteristic Sweet Odour

STABILITY AND REACTIVITY

Condition to Avoid: Prevent exposure direct to sunlight, heat or ignition sources and static build-up. See Fire Fighting Measures.

Materials to Avoid: Reacts dangerously with strong oxidising agent, see Fire Fighting Measures. Violent reactions with air in the presence of Active Carbon, Nitric Acid, Nitric Acid/Sulphuric Acid mix, Nitrosyl Chloride, Chromic Acid, Bromine, Fluorine Dioxide and Bromoform and Chloroform (in the presence of a base) And Sulphuryl Chloride. Destroys Viton, Polyethylene, PVC and some rubbers - see Storage.

Hazardous The reactions with Acetone may be violent or even explosively reactive (8).
 Decomposition: See Fire Fighting Measures.

TOXICOLOGICAL INFORMATION

Acute Effects: Liquid and vapour causes irritation to eyes, skin, respiratory and digestive tracts. Causes temporary loss of vision and possible to permanent tissue damage to eyes. May be absorbed systematically by inhalation or ingestion after significant exposure. Ingestion may cause nausea, vomiting and diarrhoea and can lead to drowsiness or unconsciousness. Inhalation causes coughing, choking, dizziness and nausea.

Chronic Effects: Liquid has a degreasing action on skin and may produce a dry, scaly and fissured dermatitis.

ECOLOGICAL INFORMATION

Extracts Chlorophyll from green vegetation. Non-Hazardous to living resources 96hr LC50>100mg/l (4).

Ecotoxicity: An insignificant toxic hazard to aquatic organisms. No evidence of bioaccumulation or tainting of seafood (4).

Partitioning: Log P octanol/water = -0.2.

Biodegradation: Readily biodegraded in the environment – (BOD10) fresh water 76%. Practically non toxic, EC50>100mg/l, to organisms in sewage treatment plants.

Acute Toxicity Data: LC50>100 (fish, daphnia, algae).

DISPOSAL CONSIDERATIONS

- Disposal Dangers: Treat as for spillages. Wear appropriate protective clothing, see Accidental Release Measures. Care should be taken to ensure accidental mixing with oxidising agents in drains, is avoided. A potential toxic and explosive hazard will be created if the split liquid enters the surface drains.
- Disposal Methods: Treat as for spillages, see Accidental Release Measures. Dispose of any hazardous waste in accordance with Waste Disposal or Water Authority Regulations. Do not dump indiscriminately. It is possible to destroy hazardous waste by burning in a suitable incinerator.

TRANSPORT INFORMATION

- SI 1981/1059 Dangerous Substance (conveyance by road in road tankers and tank containers) regulations.
 SI 1984/1244 Classification, packaging and labelling of dangerous substances regulations.
 SI 1986/1951 Road traffic (carriage of dangerous substances in packages etc.) regulations.

REGULATORY INFORMATION

- Classification, packaging and labelling of dangerous substances for supply and conveyance by road (3).
 SI 1972/917: Highly flammable liquids and LPG regulations 1972.
 SI 1976/2003: Fire certificate (special premises) regulations 1976.
 Environmental Protection (duty of care) regulations 1991.
 Environmental Protection Act 1990.

OTHER INFORMATION

- Training Advice: Alcohol, if taken during or whilst recovering from exposure, may increase the toxic effects.
- Recommended Uses
 And Restrictions: Used as a solvent in surface coatings, adhesives, cosmetics and pharmaceutical products. Use as a dehydrating, extraction and crystallising agent. Avoid contact with plastic eye glass frames, contact lenses, jewellery and textiles such as rayon.
- Data Sources:
 1. HSE guidance note EH 40 Occupational Exposure Limits (latest Edition).
 2. ACGHI (threshold limit values and biological and exposure indices) 1985-86.
 3. Classification, packaging and labelling of dangerous substances regulations 1984.
 4. IMO reports and studies No35. (The evaluation of hazards of harmful substances carried by ships) 1989.
 5. IMDG code (international Maritime dangerous goods code) 1990.
 6. Control of substances hazardous to health regulations. (SI 1988/1657).
 7. The petroleum (flammable liquids) order 1971 (SI 1971 No. 1040).
 8. HAZCHEM list No6 (emergency action codes and supplementary information) 1990.

The MSDS complies with EEC Commission Directive of 5.3.91 defining and laying down detailed arrangements for the system of specific information relating to dangerous preparations in the implementation of Article 10 of the Directive 88/379/EEC and listed in Article 3 of Directive 91/155/EEC. E&OE.

REVISED 20/2/04