SAFETY DATA SHEET

Date of issue: 10/09/02

1. Identification of the substance/preparation and of the company/undertaking

Identification of the product

Catalogue No: 29694 ID No.: 1022400

Product name: **Propan-2-ol, GPR (iso-propyl alcohol)**

Use of the substance/preparation: General chemical reagent

Manufacturer/supplier identification

Company: VWR International Ltd., Merck House, Poole, Dorset, BH15 1TD, England
Telephone : + 44 (0) 1202 669700 Telefax : + 44 (0) 1202 665599

Emergency telephone No.: + 44 (0) 1202 669700

2. Composition/information on ingredients

Chemical characterization

Alcohol

Product name: Propan-2-ol
Synonyms: iso-Propanol, iso-propyl alcohol, dimethyl carbinol

CAS number: 67-63-0 EC-No.: 200-661-7
EC Index No.: 603-117-00-0
Molecular formula: C_3H_8O = 60.10 g/mol

3. Hazards identification

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

4. First aid measures

- Eye contact: Irrigate thoroughly with water for at least 10 minutes. If discomfort persists, obtain medical attention.
- Inhalation: Remove from exposure, rest and keep warm. In severe cases obtain medical attention.
- Skin contact: Wash off thoroughly with soap and water. Remove contaminated clothing and wash before re-use. In severe cases, OBTAIN MEDICAL ATTENTION.
- Ingestion: Wash out mouth thoroughly with water and give plenty of water to drink. OBTAIN MEDICAL ATTENTION.

5. Fire-fighting measures

Special risks:

Highly flammable. Vapour/air mixture explosive.

Suitable extinguishing media:

Water spray, dry powder or vaporising liquids

6. Accidental release measures

Shut off all sources of ignition. Inform others to keep at a safe distance. Ensure supply of fresh air in enclosed rooms. Wear appropriate protective clothing.

Small amounts: Absorb on an inert absorbent, (e.g. BDH Spillage absorption granules), transfer to a suitable container and arrange removal by disposal company. Wash site of spillage thoroughly with water and detergent.
For large spillages liquids should be contained with sand or earth and both liquids and solids transferred to salvage containers. Any residues should be treated as for small spillages.

7. Handling and storage

Handling:

All electrical equipment must be flameproofed.
Avoid contact with skin and eyes.
Wash hands and face thoroughly after working with material. Contaminated clothing should be removed and washed before re-use.

Storage:

Store at room temperature (15 to 25°C recommended). Keep well closed and protected from direct sunlight and moisture. Store small containers in suitable flammable liquid storage cabinets when not in use. Larger drums (200l) must be kept in purpose-built stores.

8. Exposure controls/personal protection

UK Exposure Limits:

OES - Propan-2-ol:
Long term: 999 mg/m3 (400 ppm) Short term: 1250 mg/m3 (500 ppm)
Monitoring procedure:

Draw a known quantity of workplace air through a tube packed with charcoal, desorb the substance using a suitable volatile solvent and determine its concentration by chromatography.

Personal protective equipment:

Engineering methods to control or prevent exposure are preferred. Methods could include process enclosure or mechanical ventilation.

As appropriate to the situation and the quantity handled.
- Ventilation: Fume cupboard, flameproof
- Respirator: Self-contained breathing apparatus when vapours are generated.
- Gloves: Butyl rubber, Viton™ or PE/EVAL (Silver Shield). Gloves subject to permeation or any sign of degradation must be removed and replaced immediately.
- Eye Protection: Goggles or face-shield
- Other Precautions: Plastic apron, sleeves, boots - if handling large quantities

9. Physical and chemical properties

General information:

Form:	liquid
Colour:	colourless
Odour:	characteristic

Health, safety and environmental information:

Melting temperature		-89°C
Boiling temperature		82°C
Density(g/ml)		0.78 (20°C)
Vapour pressure		33mmHg, 20°C
Relative vapour density:		2.07
Solubility in water		Miscible in all proportions
Flash point		12°C
Explosion limits:	lower:	2.3 %v/v
	upper:	12 %v/v
Auto-ignition temperature		425°C
Viscosity:		2.4 cps
Log P(o/w):		0.05
Additional data:		Dielectric constant: 18.3 (25°C)

Dipole moment: 1.66 Debye (20°C)

10. Stability and reactivity

Formation of peroxides possible.

Substances to be avoided
alkali metals, alkaline earth metals, aluminium, oxidizing agents, organic nitro compounds.

The possibility of reaction with other substances cannot be excluded.

11. Toxicological information

- After inhalation: Irritation symptoms in the respiratory tract.
- After eye contact: Severe irritation.
- After skin contact: Slight irritation. Degreasing effect on the skin, possibly followed by secondary inflammation.

After absorption: headache, dizziness, inebriation, unconsciousness, narcosis. After the uptake of large quantities: respiratory paralysis, coma.

Further data

LD50 (oral, rat): 5045 mg/kg
LC50 (inhalation, rat): 16000 ppm/8h
Skin irritation test (rabbit): slight irritation symptoms
Eye irritation test (rabbit): moderate irritant effect

We have no evidence of carcinogenic effects. Evidence of reproductive effects.

12. Ecological information

Low aquatic toxicity. Bioaccumulation potential: low (Log Pow <2). Biological degradability: good.

Further ecological data:

Fish toxicity: LC50 (Pimephales promelas): 11,130 mg/l/96h
Daphnia toxicity: EC50 (Daphnia magna): 3010 mg/l NOEC: 757 mg/l
Algeal toxicity: ECo (Microcystis aeruginosa): 1,000 mg/l/8d
Bacterial toxicity: ECo (Pseudomonas putida): 1050 mg/l/16h
ThOD: 2 . 4
BOD: 67-97% of ThOD

Remarks:

Adverse ecological effects cannot be excluded in the event of improper handling or disposal.

13. Disposal considerations

Chemical residues are generally classified as special waste, and as such are covered by regulations which vary according to location. Contact your local waste disposal authority for advice, or pass to a chemical disposal company. Rinse out empty containers thoroughly before returning for recycling.

When recovery and recycling is not possible, incineration in a high temperature incinerator is the recommended method of disposal.

14. Transport information

UN-No.: 1219 Class: 3 Packaging group: II
Proper shipping name: ISOPROPANOL

15. Regulatory information

Labelling according to EC directives

Symbol: F Xi Highly flammable. Irritant.

R-phrases: R11-36-67
Highly flammable. Irritating to eyes. Vapours may cause drowsiness and dizziness.

S-phrases: S7-16-24/25-26
Keep container tightly closed. Keep away from sources of ignition - No smoking. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

EC-No.: 200-661-7

Local Regulations

Within the UK, the use of this material must be assessed under the Dangerous Substances and Explosive Atmospheres (DSEAR) Regulations.

U.K. Transport Category 2

Within the UK, the use of this material must be assessed under the Control of Substances Hazardous to Health (COSHH) regulations.

16. Other information

Revision.
Supersedes edition of: 25/01/02
Reason for alteration: Changes in Section : 11, 12. General update.

Date of issue:	10/09/02
Date of print:	08/12/03