

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.11.2012

Revision: 31.10.2012

1 Identification of the substance/mixture and of the company/undertaking

· **Product identifier**

· **Trade name:** Isopropanol

· **Article number:** 40-1700-10

· **CAS Number:**

67-63-0

· **EC number:**

200-661-7

· **Index number:**

603-117-00-0

· **Registration number** 01-2119457558-25

· **Relevant identified uses of the substance or mixture and uses advised against**

Intermediate; Uses in coatings; Use in cleaning agents; Use in oil field drilling and production operations; Lubricants; Metal working fluids/rolling oils; Blowing agents; Use as a binders and release agents; Use as a fuel; Functional fluid; Use in laboratories; Rubber production and processing; Polymer processing; water treatment chemicals; Mining chemicals; Use in agrochemicals; De-icing and anti-icing applications; Explosives manufacture & use; Road and construction application.

· **Sector of Use**

SU0 Other

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

SU9 Manufacture of fine chemicals

SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

· **Product category**

PC0 Other

PC1 Adhesives, sealants

PC3 Air care products

PC4 Anti-Freeze and de-icing products

PC8 Biocidal products (e.g. Disinfectants, pest control)

PC9a Coatings and paints, thinners, paint removers

PC9b Fillers, putties, plasters, modelling clay

PC9c Finger paints

PC12 Fertilizers

PC13 Fuels

PC15 Non-metal-surface treatment products

PC16 Heat transfer fluids

PC17 Hydraulic fluids

PC18 Ink and toners

PC23 Leather tanning, dye, finishing, impregnation and care products

PC24 Lubricants, greases, release products

PC27 Plant protection products

PC28 Perfumes, fragrances

PC31 Polishes and wax blends

PC34 Textile dyes, finishing and impregnating products; including bleaches and other processing aids

PC35 Washing and cleaning products (including solvent based products)

PC38 Welding and soldering products (with flux coatings or flux cores.), flux products

PC39 Cosmetics, personal care products

· **Process category**

PROC0: Other

PROC1 Use in closed process, no likelihood of exposure

PROC2 Use in closed, continuous process with occasional controlled exposure

PROC3 Use in closed batch process (synthesis or formulation)

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC6 Calendering operations

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- PROC7 Industrial spraying
- PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
- PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
- PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
- PROC10 Roller application or brushing
- PROC11 Non industrial spraying
- PROC12 Use of blowing agents in manufacture of foam
- PROC13 Treatment of articles by dipping and pouring
- PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation
- PROC15 Use as laboratory reagent
- PROC16 Using material as fuel sources, limited exposure to unburned product to be expected
- PROC17 Lubrication at high energy conditions and in partly open process
- PROC18 Greasing at high energy conditions
- PROC19 Hand-mixing with intimate contact and only PPE available
- PROC20 Heat and pressure transfer fluids in dispersive, professional use but closed systems
- PROC21 Low energy manipulation of substances bound in materials and/or articles

· **Environmental release category**

- ERC0 Other
- ERC1 Manufacture of substances
- ERC2 Formulation of preparations
- ERC3 Formulation in materials
- ERC4 Industrial use of processing aids in processes and products, not becoming part of articles
- ERC5 Industrial use resulting in inclusion into or onto a matrix
- ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)
- ERC7 Industrial use of substances in closed systems
- ERC8a Wide dispersive indoor use of processing aids in open systems
- ERC8d Wide dispersive outdoor use of processing aids in open systems
- ERC8e Wide dispersive outdoor use of reactive substances in open systems
- ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix
- ERC9a Wide dispersive indoor use of substances in closed systems
- ERC9b Wide dispersive outdoor use of substances in closed systems

· **Application of the substance / the preparation**

The substance has many industrial, professional and consumer applications.

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Severn Biotech Ltd.
 Unit 2,
 Park Lane,
 Kidderminster,
 Worcestershire.
 DY11 6TJ
 UK
 Tel: 0044 1562 825286
 Fax: 0044 1562 825284
 email: info@severnbiotech.com

· **Further information obtainable from:** Product safety department.

· **Emergency telephone number:** Tel: 0044 1562 825286 (not 24 hours)

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2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xi; Irritant

R36: Irritating to eyes.



F; Highly flammable

R11: Highly flammable.

R67: Vapours may cause drowsiness and dizziness.

- **Information concerning particular hazards for human and environment:** Has a narcotizing effect.

- **Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms** GHS02, GHS07

- **Signal word** Danger

- **Hazard statements**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

- **Precautionary statements**

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

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P260 Do not breathe mist/vapours/spray.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P370+P378 In case of fire: Use for extinction: CO₂, powder or water spray.

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**

- **CAS No. Description**

67-63-0 Propan-2-ol

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- **Identification number(s)**
- **EC number:** 200-661-7
- **Index number:** 603-117-00-0

4 First aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Immediately rinse with water.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
Check for and remove any contact lenses.
- **After swallowing:**
Wash mouth out with water
Do not induce vomiting; call for medical help immediately.
- **Information for doctor:** Treat symptomatically and supportively.
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, powder or water spray. Fight larger fires with water spray.
- **For safety reasons unsuitable extinguishing agents:** Alcohol-resistant foam
- **Special hazards arising from the substance or mixture** Forms flammable mixtures with air.
- **Advice for firefighters**
- **Protective equipment:**
Wear fully protective suit.
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep ignition sources away - no smoking.
- **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Do not allow to penetrate the ground/soil.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable receptacles.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.

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See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 - Prevent formation of aerosols.
 - Ensure good ventilation/exhaustion at the workplace.
 - Safety showers and eye wash facilities should be available at the work area.
 - Avoid direct contact (skin contact, ingestion and/or inhalation of fume/mist/dust) with the product.
- **Information about fire - and explosion protection:**
 - Keep ignition sources away - Do not smoke.
 - Protect against electrostatic charges.
 - The vapour mixes well with air, explosive mixtures are easily formed.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
 - Store in a cool location.
 - Prevent any seepage into the ground.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**
 - Store in cool, dry conditions in well sealed receptacles.
 - Store in a banded area.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

67-63-0 Isopropanol

WEL	Short-term value: 1250 mg/m ³ , 500 ppm
	Long-term value: 999 mg/m ³ , 400 ppm

- **DNELs**

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WORKERS

Long-term exposure - systemic effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 888 mg/kg bw/day

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 500 mg/m³**GENERAL POPULATION**

Long-term exposure - systemic effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 319 mg/kg bw/day

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 89 mg/m³

Oral DN(M)EL

- DNEL (Derived No Effect Level): 26 mg/kg bw/day

· **PNECs**

PNEC aqua (freshwater): 140.9 mg/L

PNEC aqua (marine water): 140.9 mg/L

PNEC aqua (intermittent releases): 140.9 mg/L

PNEC STP: 2251 mg/L

PNEC sediment (freshwater): 552 mg/kg sediment dw

PNEC sediment (marine water): 552 mg/kg sediment dw

PNEC soil: 28 mg/kg soil dw

PNEC oral: 160 mg/kg food

· **Additional information:** The lists valid during the making were used as basis.· **Exposure controls**· **Personal protective equipment:**

Select PPE appropriate for the operations taking place taking into account the product properties.

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not eat, drink, smoke or sniff while working.

Do not inhale gases / fumes / aerosols.

Ensure that washing facilities are available at the work place.

Take note of assigned Workplace Exposure Limits.

A safe system of work must be formulated and followed to ensure safe working with this product.

Relevant workers must receive suitable and sufficient training and supervision.

· **Respiratory protection:**

No personal respiratory protective equipment normally required. In inadequately ventilated areas, where workplace limits are exceeded, where unpleasant odours exist or where aerosols are in use, or smoke and mist occur, use self-contained breathing apparatus or breathing apparatus with a type A filter or appropriate combined filter (e.g. where aerosols are in use, or smoke and mist occur, A-P2 or ABEK-P2), in compliance with EN 141.

· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Gloves suitable for permanent contact: Material: Nitrile rubber/nitrile latex

Break through time: ≥ 480 min

Material thickness: 0.35 mm

Material: butyl-rubber

Break through time: ≥ 480 min

Material thickness: 0.5 mm

Gloves suitable for splash protection: Material: Polychloroprene

Break through time: ≥ 240 min

Material thickness: 0.5 mm

Unsuitable glove: Material: Natural rubber/natural latex, Polyvinylchloride

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Solvent resistant protective clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Fluid
Colour:	Clear
Odour:	Alcohol-like

- **pH-value (- g/l) :** neutral

- **Change in condition**

Melting point/Melting range:	-88.5 °C
Boiling point/Boiling range:	82 °C

- **Flash point:** 12 °C

- **Ignition temperature:** 399 °C

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- **Explosion limits:**

Lower:	2 Vol %
Upper:	13 Vol %

- **Vapour pressure at 20 °C:** 60 hPa

- **Density at 20 °C:** 0.79 g/cm³

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- | | |
|---|--|
| · Solubility in / Miscibility with water at 20 °C: | 1 g/l |
| · Partition coefficient (n-octanol/water): | 0.05 log POW |
| · Viscosity: | |
| Dynamic at 20 °C: | 2.43 mPas |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Isopropyl alcohol vapour is heavier than air and is highly flammable with a very wide combustible range. It should be kept away from heat and open flame. When mixed with air or other oxidizers it can explode through deflagration.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
Strong oxidising agents.
Aluminium, alkali metals, alkaline-earth metals.
Halogens.
- **Hazardous decomposition products:** Carbon monoxide and carbon dioxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values relevant for classification:		
Oral	LD50	>2000 mg/kg (rat)

- | | | |
|------|------|-------------------|
| Oral | LD50 | >2000 mg/kg (rat) |
|------|------|-------------------|
- **Primary irritant effect:**
 - **on the skin:** No irritant effect.
 - **on the eye:** Irritating effect.
 - **Sensitization:** No sensitizing effects known.
 - **Other information (about experimental toxicology):** The liquid defats the skin.
 - **Additional toxicological information:**
ROUTES OF EXPOSURE: The substance can be absorbed into the body by ingestion and by inhalation of its vapour.

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20 °C; on spraying or dispersing, however, much faster.

The substance may cause effects on the central nervous system, resulting in depression. Use of alcoholic beverages enhances the harmful effect.

Exposure far above the WEL may result in unconsciousness.

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12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

EC50	>10000 mg/kg (daphnia)
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- **Persistence and degradability** biodegradable

- **Behaviour in environmental systems:**

- **Bioaccumulative potential** Product is not expected to bioaccumulate.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contact waste processors for recycling information.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

- **European waste catalogue**

Waste key numbers in accordance with the European Waste catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.

- **Uncleaned packaging:**

- **Recommendation:**

Disposal must be made according to official regulations.

Container remains hazardous when empty. Continue to observe all precautions.

- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- **UN-Number**

- **ADR, IMDG, IATA**

1219

- **UN proper shipping name**

- **ADR**

- **IMDG, IATA**

1219 ISOPROPANOL (ISOPROPYL ALCOHOL)

ISOPROPANOL (ISOPROPYL ALCOHOL)

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· **Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class** 3 Flammable liquids.
 · **Label** 3

· **Packing group**

· **ADR, IMDG, IATA** II

· **Special precautions for user** Warning: Flammable liquids.

· **Danger code (Kemler):** 33

· **EMS Number:** F-E,S-D

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 1L

· **Transport category** 2

· **Tunnel restriction code** D1E

· **UN "Model Regulation":** UN1219, ISOPROPANOL (ISOPROPYL ALCOHOL), 3, II

15 Regulatory information

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Product safety department.