

# 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:** Isoamyl Alcohol 3-Methyl-1-butanol
- **Article number:** 40-1600-10
- **CAS Number:**  
123-51-3
- **EC number:**  
204-633-5
- **Index number:**  
603-006-00-7
- **Registration number** 01-2119493725-26
- **Relevant identified uses of the substance or mixture and uses advised against**  
Uses in Coatings; Use in cleaning agents; Lubricants; Use as binders and release agents; Use in laboratories; Polymer processing; consumer use.
- **Sector of Use**  
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)
- **Product category**  
PC1 Adhesives, sealants  
PC3 Air care products  
PC4 Anti-Freeze and de-icing products  
PC9a Coatings and paints, thinners, paint removers  
PC9b Fillers, putties, plasters, modelling clay  
PC9c Finger paints  
PC15 Non-metal-surface treatment products  
PC18 Ink and toners  
PC23 Leather tanning, dye, finishing, impregnation and care products  
PC24 Lubricants, greases, release products  
PC28 Perfumes, fragrances  
PC31 Polishes and wax blends  
PC32 Polymer preparations and compounds  
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**  
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  
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  
PROC13 Treatment of articles by dipping and pouring  
PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation  
PROC15 Use as laboratory reagent  
PROC17 Lubrication at high energy conditions and in partly open process  
PROC20 Heat and pressure transfer fluids in dispersive, professional use but closed systems

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· **Environmental release category**

- ERC1 Manufacture of substances
- ERC2 Formulation of preparations
- 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)
- ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
- ERC8a Wide dispersive indoor use of processing aids in open systems
- ERC8b Wide dispersive indoor use of reactive substances in open systems
- ERC8c Wide dispersive indoor use resulting in inclusion into or onto a matrix
- 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)

## 2 Hazards identification

· **Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

STOT SE 3 H335 May cause respiratory irritation.

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



Xn; Harmful

R22: Harmful if swallowed.

R10: Flammable.

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- **Information concerning particular hazards for human and environment:** Not applicable.

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- **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** Warning
- **Hazard statements**
  - H226 Flammable liquid and vapour.
  - H332 Harmful if inhaled.
  - H335 May cause respiratory irritation.
  - EUH066 Repeated exposure may cause skin dryness or cracking.
- **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.
  - P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - 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: CO<sub>2</sub>, 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**  
123-51-3 3-methylbutan-1-ol
- **Identification number(s)**
- **EC number:** 204-633-5
- **Index number:** 603-006-00-7

### 4 First aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.
- **After eye contact:**  
Check for and remove any contact lenses.  
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Wash mouth out with water  
Do not induce vomiting; call for medical help immediately.  
Give a slurry of activated charcoal in water to drink
- **Information for doctor:** Treat symptomatically and supportively.
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.

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- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**  
Above 45 degs. C explosive vapour/air mixtures may be formed.
- **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.  
Particular danger of slipping on leaked/spilled product.
- **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.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
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.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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:**  
Keep container tightly sealed.  
Protect from heat and direct sunlight.

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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:**

### 123-51-3 Iso amyl alcohol

WEL	Short-term value: 458 mg/m <sup>3</sup> , 125 ppm
	Long-term value: 366 mg/m <sup>3</sup> , 100 ppm

· **DNELs**

#### WORKERS

Acute / short-term exposure - systemic effects

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 292 mg/m<sup>3</sup>

Acute / short-term exposure - local effects

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 292 mg/m<sup>3</sup>

Long-term exposure - systemic effects

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 73.16 mg/m<sup>3</sup>

Long-term exposure - local effects

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 73.16 mg/m<sup>3</sup>

#### GENERAL POPULATION

Acute / short-term exposure - systemic effects

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 256.4 mg/m<sup>3</sup>

Acute / short-term exposure - local effects

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 256.4 mg/m<sup>3</sup>

Long-term exposure - systemic effects

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 15.4 mg/m<sup>3</sup>

Oral DN(M)EL

- DNEL (Derived No Effect Level): 25 mg/kg bw/day

Long-term exposure - local effects

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 15.4 mg/m<sup>3</sup>

· **PNECs**

PNEC aqua (freshwater): 0.013 mg/L

PNEC aqua (marine water): 0.0013 mg/L

PNEC aqua (intermittent releases): 0.13 mg/L

PNEC STP: 37 mg/L

PNEC sediment (freshwater): 0.0537 mg/kg sediment dw

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PNEC sediment (marine water): 0.0054 mg/kg sediment dw

PNEC soil: 0.0031 mg/kg soil dw

· **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.

Wash hands before breaks and at the end of work.

Take note of assigned Workplace Exposure Limits.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

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

Ensure that eyewash stations and safety showers are close to the workstation location.

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:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

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

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.

· **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: Colourless

· **Odour:** Unpleasant

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: -147 °C

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<b>Boiling point/Boiling range:</b>	130 °C
· <b>Flash point:</b>	43 °C
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	335 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Self-igniting:</b>	Not determined.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	1.2 Vol %
<b>Upper:</b>	ca.8 Vol %
· <b>Vapour pressure at 20 °C:</b>	3 hPa
· <b>Density at 20 °C:</b>	0.81 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water at 20 °C:</b>	26 g/l
· <b>Partition coefficient (n-octanol/water):</b>	1.35 log POW
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Reacts violently with strong oxidants.  
Reacts with reducing agents.  
Reacts violently with hydrogen trisulfide. This generates explosion hazard.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Strong oxidising agents.
- **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)
Dermal	LD50	>3000 mg/kg (rabbit)

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- **Primary irritant effect:**
  - **on the skin:**
    - Will defat and dry the skin.
    - No irritant effect.
  - **on the eye:** No irritating effect.
  - **Sensitization:** No sensitizing effects known.
  - **Subacute to chronic toxicity:** Effects of long-term or repeated exposure: The liquid defats the skin.
  - **Additional toxicological information:**
    - Routes of exposure: The substance can be absorbed into the body by inhalation and by ingestion.
    - Inhalation risk
    - A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20 degs. C.
- Effects of short-term exposure: The substance is slightly irritating to the eyes, skin and respiratory tract. Ingestion could cause effects on the central nervous system.

## 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

EC50	0.7 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.

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

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### 14 Transport information

· UN-Number	
· ADR, IMDG, IATA	UN1105
· UN proper shipping name	
· ADR	1105 PENTANOLS
· IMDG, IATA	PENTANOLS
· Transport hazard class(es)	
· ADR, IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· 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)	5L
· Transport category	3
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1105, PENTANOLS, 3, III

### 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.