

Safety data sheet
according to 1907/2006/EC, Article 31 Commission
regulation (EU) 2020/878

Printing date 16.03.2023

Version number 7.0 (replaces version 6.0)

Revision: 16.03.2023

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

1.1 Product identifier

• **Trade name:** 1-Butanol, for analysis, ExpertQ®, ACS, ISO, Reag. Ph Eur

• **Article number:** AL0173

• **CAS Number:**

71-36-3

• **EC number:**

200-751-6

• **Index number:**

603-004-00-6

1.2 Relevant identified uses of the substance or mixture and uses advised against

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

Process category

PROC5 Mixing or blending in batch processes

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC15 Use as laboratory reagent

• **Application of the substance / the preparation:** Laboratory reagent

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Scharlab, S.L.

C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa

08181 Sentmenat (Barcelona) SPAIN

Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65

email: scharlab@scharlab.com

Internet Web Site: www.scharlab.com

Regional representation:

Scharlab, S.L.

C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa

08181 Sentmenat (Barcelona) SPAIN

Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65

email: scharlab@scharlab.com

Internet Web Site: www.scharlab.com

• **Further information obtainable from:** technical department

1.4 Emergency telephone number:

Please contact the regional Scharlab distributor/dealer in your country

During normal opening times: Scharlab, S.L. (+34) 93 715 18 11

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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



flame

Flam. Liq. 3 H226

Flammable liquid and vapour.



corrosion

Eye Dam. 1 H318

Causes serious eye damage.

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Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

2.2 Label elements**• Labelling according to Regulation (EC) No 1272/2008**

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

• Hazard pictograms

GHS02



GHS05



GHS07

• Signal word Danger**• Hazard statements**

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

• Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P370+P378 In case of fire: Use CO₂, powder or water spray to extinguish.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

• 2.3 Other hazards**• Results of PBT and vPvB assessment**

- PBT:** Not applicable.
- vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients**• 3.1 Substances****• CAS No. Description**

71-36-3 butan-1-ol

• Identification number(s)**• EC number:** 200-751-6**• Index number:** 603-004-00-6

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SECTION 4: First aid measures

• 4.1 Description of first aid measures

• **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

• **After inhalation:**

Take affected persons into fresh air and keep quiet.

In case of unconsciousness place patient stably in side position for transportation.

In severe cases such as cardiorespiratory arrest, artificial respiration techniques such as mouth-to-mouth resuscitation, cardiac massage, oxygen supply, etc. will be applied.

• **After skin contact:**

Immediately remove contaminated clothing.

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

If the product causes burns or frostbite, clothing should not be removed because it could worsen the injury if it sticks to the skin.

In the event of blisters forming on the skin, these should never be burst as this would increase the risk of infection.

• **After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.

Prevent the affected person from rubbing or closing their eyes.

In the event that the injured person wears contact lenses, they must be removed as long as they are not stuck to the eyes, otherwise additional damage could occur.

Call a doctor immediately.

• **After swallowing:**

Do not induce vomiting; call for medical help immediately.

If the affected person vomits, keep the head down so that the vomit does not enter the lungs.

Never give anything by mouth to an unconscious person.

Rinse mouth and drink water (2 glasses) if the affected is conscious. Seek medical help immediately.

• 4.2 Most important symptoms and effects, both acute and delayed

The main symptoms are described for different cases of contact: Skin, eyes, inhalation and ingestion.

• 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

• 5.1 Extinguishing media

• **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

• **For safety reasons unsuitable extinguishing agents:** Water with full jet

• 5.2 Special hazards arising from the substance or mixture

Under certain fire conditions, traces of other toxic gases cannot be excluded.

• 5.3 Advice for firefighters

• **Protective equipment:**

In the work of extinction it is necessary to provide respiratory protection and full chemical protective clothing.

Cool exposed containers with water spray or mist.

• **Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

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Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Isolate leaks as long as it does not pose an additional risk to the people who perform this function.

Evacuate and restrict access.

Ensure adequate ventilation

Eliminate all sources of ignition.

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.**6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

6.4 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.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Keep receptacles tightly sealed.

Do not eat, drink or smoke during use.

Wash hands after any manipulation.

Information about fire - and explosion protection:

Use explosion-proof apparatus / fittings and spark-proof tools.

Fumes can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities**Storage:****Requirements to be met by storerooms and receptacles:**

Store in a cool, dry, well-ventilated place.

Store only in unopened original receptacles.

Information about storage in one common storage facility: Store away from foodstuffs.**Further information about storage conditions:**

Store receptacle in a well ventilated area.

Keep container tightly sealed.

See product's label for recommended storage temperature.

7.3 Specific end use(s) No further relevant information available.**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Ingredients with limit values that require monitoring at the workplace:****71-36-3 butan-1-ol**WEL Short-term value: 154 mg/m³, 50 ppm

Sk

DNELsDNEL worker, cronic. Local effects: Inhalative - 310 mg/m³

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DNEL consumer, prolonged. Local effects: Inhalative - 155 mg/m³

DNEL consumer, prolonged. Systematic effects:

- Inhalative: 55.357 mg/m³
- Dermic: 3.125 mg/kg body weight
- Oral: 1.562 mg/kg body weight

PNECs

PNEC (Fresh water): 0.082 mg/L

PNEC (Sea water): 0.008 mg/L

PNEC (Freshwater sediments): 0.324 mg/kg

PNEC (Seawater sediments): 0.032 mg/kg

PNEC (Residual water depuration system): 2476 mg/l

PNEC (Soil): 0.017 mg/kg

- **Additional information:** The lists valid during the making were used as basis.

8.2 Exposure controls

- **Appropriate engineering controls** No further data; see item 7.

- **Individual protection measures, such as personal protective equipment**

- **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 skin.

Avoid contact with the eyes and skin.

- **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.

- **Hand protection**



Protective gloves

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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/face protection**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

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

- **General Information**

- **Physical state**

Fluid

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• Colour:	Colourless
• Odour:	Alcohol-like
• Odour threshold:	Not determined.
• Melting point/freezing point:	-90 °C
• Boiling point or initial boiling point and boiling range	119 °C
• Flammability	Flammable.
• Lower and upper explosion limit	
• Lower:	1.5 Vol %
• Upper:	9.4 Vol %
• Flash point:	34 °C
• Ignition temperature:	355 °C
• Decomposition temperature:	Not determined.
• pH	7
• Viscosity:	
• Kinematic viscosity	Not determined.
• Dynamic at 20 °C:	2.95 mPa·s
• Solubility	
• water at 20 °C:	66 g/l
• Partition coefficient n-octanol/water (log value)	Not determined.
• Vapour pressure at 20 °C:	10 hPa
• Density and/or relative density	
• Density at 20 °C:	0.81 g/cm³
• Relative density	Not determined.
• Vapour density	Not determined.
• 9.2 Other information	
• Appearance:	
• Form:	Fluid
• Important information on protection of health and environment, and on safety.	
• Auto-ignition temperature:	Not determined.
• Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
• Molecular weight	74.12 g/mol
• Change in condition	
• Evaporation rate	Not determined.
• Information with regard to physical hazard classes	
• Explosives	Void
• Flammable gases	Void
• Aerosols	Void
• Oxidising gases	Void
• Gases under pressure	Void
• Flammable liquids	Flammable liquid and vapour.
• Flammable solids	Void
• Self-reactive substances and mixtures	Void
• Pyrophoric liquids	Void
• Pyrophoric solids	Void
• Self-heating substances and mixtures	Void
• Substances and mixtures, which emit flammable gases in contact with water	Void
• Oxidising liquids	Void
• Oxidising solids	Void

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- | | |
|----------------------------------|------|
| • Organic peroxides | Void |
| • Corrosive to metals | Void |
| • Desensitised explosives | Void |

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
Stable under normal conditions. If used according to the regulation no decomposition occurs.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
Heat, open flames and sparks
Exposure to light
- **10.5 Incompatible materials:**
Strong acids
Strong bases
Oxidising materials.
- **10.6 Hazardous decomposition products:** Carbon oxides

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if swallowed.
- **LD/LC50 values relevant for classification:**

Oral	LD50	>500 mg/kg (rat)
Dermal	LD50	3,400 mg/kg (rabbit)
Inhalative	LC50/4 h	24.66 mg/l (rat)
- **Skin corrosion/irritation** Causes skin irritation.
- **Serious eye damage/irritation** Causes serious eye damage.
- **STOT-single exposure** May cause respiratory irritation. May cause drowsiness or dizziness.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
Toxicity to fish
LC50 - Pimephales promelas (Fathead piscardo) - 1740 mg/L - 96 h
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (large sea flea) - 1983 mg/L - 48 h
- **12.2 Persistence and degradability**
DBO = 1.71 g O2/g
DQO = 2.46 g O2/g
(OCDE)
Biodegradation = 98 %
Exposure time: 19
- **12.3 Bioaccumulative potential**
Bioconcentration factor (BCF): 1

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log Pow: 0.88 (20°C)

Due to the distribution coefficient n-octanol/water a worth-mentioning accumulation in organisms is not expected.

- **12.4 Mobility in soil**

Log Koc: 2.44 (25°C)

Very mobile

Surface tension: 25.67 mN/m

Henry's constant: 0.054 Pa·m³/mol (S °C)

- **12.5 Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

- **12.7 Other adverse effects**

- **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.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**

- **Recommendation**

Must be specially treated adhering to official regulations.

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

- **Uncleaned packaging:**

- **Recommendation:**

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

SECTION 14: Transport information

- **14.1 UN number or ID number**

- **ADR, IMDG, IATA**

UN1120

- **14.2 UN proper shipping name**

- **ADR**

1120 BUTANOLS

- **IMDG, IATA**

BUTANOLS

- **14.3 Transport hazard class(es)**

- **ADR, IMDG, IATA**



- **Class**

3 Flammable liquids.

- **Label**

3

- **14.4 Packing group**

- **ADR, IMDG, IATA**

III

- **14.5 Environmental hazards:**

- **Marine pollutant:**

No

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- **14.6 Special precautions for user** Warning: Flammable liquids.
- **Hazard identification number (Kemler code):** 30
- **EMS Number:** 3-06
- **Stowage Category** A
- **14.7 Maritime transport in bulk according to IMO instruments** Not applicable.
- **Transport/Additional information:**
- **ADR**
- **Limited quantities (LQ)** 5L
- **Transport category** 3
- **Tunnel restriction code** D/E
- **UN "Model Regulation":** UN 1120 BUTANOLS, 3, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I -**
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 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 SDS:** product safety department
- **Contact:** msds@scharlab.com
- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3