Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 03.04.2026 Version number 20 (replaces version 19) Revision: 03.04.2026

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

· **1.1 Product identifier**
· **Trade name: Bromothymol blue solution 0,4% in ethanol**
· **SDS number:** CH0721
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
For professional users only
No further relevant information available.
· **Life cycle stages**
IS Use at industrial Sites
F Formulation or re-packing
· **Sector of Use**
SU9 Manufacture of fine chemicals
SU24 Scientific research and development
· **Product category**
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
PC21 Laboratory chemicals
PC29 Pharmaceuticals
PC40 Extraction agents
· **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC15 Use as laboratory reagent
· **Environmental release category**
ERC1 Manufacture of the substance
ERC2 Formulation into mixture
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC6a Use of an intermediary
· **Application of the substance / the mixture** Chemicals products for laboratory

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
CARLO ERBA REAGENTS
Chaussée du Vexin
Parc d'Affaires des Portes - BP616
27106 VAL DE REUIL Cedex
Téléphone: +33 (0)2 32 09 20 00
Télécopie: +33 (0)2 32 09 20 20
· **Further information obtainable from:**
Q.A / Normative
email: MSDS_CER-SDS@cer.dgroup.it
· **1.4 Emergency telephone number:**
Ireland - Tel : 00 353 1 8092568 - 00 353 1 8379964 (24h/24)
EU Tel : 112

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SECTION 2: Hazards identification

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



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms**



GHS02

· **Signal word** *Warning*
· **Hazard statements**
H226 Flammable liquid and vapour.
· **Precautionary statements**

P210	*Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*
P241	*Use explosion-proof [electrical/ventilating/lighting] equipment.*
P280	*Wear protective gloves / eye protection / face protection.*
P303+P361+P353	*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*
P403+P235	*Store in a well-ventilated place. Keep cool.*
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*
· **Determination of endocrine-disrupting properties** *Not applicable*

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:**
Mixture made by the following substances:

CAS: 7732-18-5 *EINECS: 231-791-2* *RTECS: ZC 0110000*	*water, distilled, conductivity or of similarpurity*	*≤100%*

· **Dangerous components:**

CAS: 64-17-5 *EINECS: 200-578-6* *Index number: 603-002-00-5* *RTECS: KQ 6300000* *Reg.nr.: 01-2119457610-43*	*Ethyl alcohol* *Flam. Liq. 2, H225; Eye Irrit. 2, H319* *Specific concentration limit: Eye Irrit. 2; H319: C ≥ 50 %*	*10-25%*

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SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **After inhalation:** Supply fresh air; consult a doctor in case of complaints.
· **After skin contact:**
Generally the product does not irritate the skin.
If skin irritation continues, consult a doctor.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** If some symptoms persist seek for medical advice.
· **Information for doctor:** Show the doctor this Material Safety Data Sheet.
· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:** CO2 or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet.
· **5.2 Special hazards arising from the substance or mixture**
Can form explosive gas-air mixtures.
Carbon monoxide and carbon dioxide
· **5.3 Advice for firefighters**
· **Protective equipment:** Do not inhale gases in case or fire or combustion.
· **Additional information** Keep receptacles cool with water spray.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Keep away any ignition source.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
· **6.2 Environmental precautions:**
Do not allow to penetrate the ground/soil.
Dilute with plenty of water after collecting the liquid.
Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Collect the liquid with vacuum in a suitable container and absorb the remainder with a porous material (diatomite, acid binders, universal binders, etc).
· **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**
Store in cool, dry place in tightly closed receptacles.
Keep away from heat and direct sunlight.
Pneumatic conveyance only with nitrogen or other inert gases.

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· ***Information about fire - and explosion protection:***



Keep ignition sources away - Do not smoke.

Protect from heat.
Protect against electrostatic charges.
Use explosion-proof apparatus / fittings and spark-proof tools.

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:*** *Store in a cool location.*
· ***Information about storage in one common storage facility:*** *Not required*
· ***Further information about storage conditions:*** *Store in cool, dry conditions in well sealed receptacles.*
· ***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:***
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **DNELs**		
CAS: 64-17-5 Ethyl alcohol		
Dermal	DNEL (workers-systemic chronic effects)	343 mg/kg
Inhalative	DNEL (workers-local effects Acute)	19 mg/m3
	DNEL (workers-systemic chronic effects)	950 mg/m3

· **PNECs**	
CAS: 64-17-5 Ethyl alcohol	
PNEC (Fresh water)	0.96 mg/l
PNEC (Freshwater sediment)	3.6 mg/kg
PNEC (Marine water)	0.79 mg/l
PNEC (Seawater sediment)	2.9 mg/l
PNEC (STP)	580 mg/l
PNEC (Soil)	0.63 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 section 7.*
· ***Individual protection measures, such as personal protective equipment***
· ***General protective and hygienic measures:***
The usual precautionary measures are to be adhered to when handling chemicals.
Wash hands before breaks and at the end of work.
· ***Respiratory protection:***
Filter P2
The selected respiratory protection must comply with standard EN 136/140/143/145/149.
· ***Hand protection***
The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.

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



Protective gloves

Rubber gloves

· ***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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Rubber gloves

· ***Penetration time of glove material***

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

· ***Eye/face protection***



Face protection

· ***Body protection:*** *Protective work clothing*

· ***Environmental exposure controls***

In case of unintended release of the product: See section 6 of the Safety Data Sheet.

· ***Risk management measures*** *Keep good industrial hygiene.*

SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***	
· ***Molecular weight***	
· ***Physical state***	*Liquid*
· ***Colour:***	*Dark green*
· ***Odour:***	*Odourless*
· ***Odour threshold:***	*Not determined*
· ***Melting point/freezing point:***	*Undetermined*
· ***Boiling point or initial boiling point and boiling range***	*78 °C*
· ***Flammability***	*Flammable.*
· ***Lower and upper explosion limit***	
· ***Lower:***	*3.5 Vol %*
· ***Upper:***	*15 Vol %*
· ***Flash point:***	*29 °C*
· ***Auto-ignition temperature:***	*425 °C*
· ***Decomposition temperature:***	*Not determined*
· ***pH at 20 °C***	*5-9*
· ***Viscosity:***	
· ***Kinematic viscosity***	*Not determined*
· ***Dynamic:***	*Not determined*
· ***Solubility***	
· ***water:***	*Fully miscible.*
· ***Partition coefficient n-octanol/water (log value)***	*Not determined*
· ***Vapour pressure at 20 °C:***	*59 hPa*

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· **Density and/or relative density**	
· **Density at 20 °C:**	0.96 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.**

64-17-5	Ethyl alcohol	MIE (TRGS-727) 0,28 mJ

· **Ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· **Solvent separation test:**	
· **Organic solvents:**	20.0 %
· **Water:**	79.6 %
· **Solids content:**	0.4 %
· **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
· **Organic peroxides**	Void
· **Corrosive to metals**	Void
· **Desensitised explosives**	Void

SECTION 10: Stability and reactivity

· **10.1 Reactivity** See 10.3
· **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**
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
· **10.5 Incompatible materials:** Metals
· **10.6 Hazardous decomposition products:** Carbon monoxide, Carbon dioxide.

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SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**		
CAS: 64-17-5 Ethyl alcohol		
Oral	LD50	6,200-15,000 mg/kg (rat)
Dermal	LD50	17,100 mg/kg (rabbit)
Inhalative	LC50/4 h	117 mg/L (rat)
	LC50	>50 mg/m³ (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Ingestion:** It can be harmfull if swallowed.
· **Inhalation:** May be harmful if inhaled.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.
· **Other information (about experimental toxicology):** No further relevant information available.
· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
None of the ingredients is listed.

*

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:**
Foreseeable as non relevant.

CAS: 64-17-5 Ethyl alcohol	
EC50/48h	5,012 mg/l (Daphnia) (freshwater)
EC50	72 mg/L (algae)
LC50/96h	11,200 mg/l (fishes) (freshwater)

· **12.2 Persistence and degradability** No further relevant information available.
· **Method**
· **Ecological information** Not available
· **Other information:**
The product is easily biodegradable.
The dye is slowly dagradable.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **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.

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· ***12.7 Other adverse effects***
· ***Remark:*** *Local effects: may change the environmental pH endangering the aquatic life.*
· ***Additional ecological information:***
· ***General notes:***
Not known to be hazardous to water (German classification -WGK).
Water hazard class 1 (German Regulation) (Self-assessment): 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 not be disposed together with household garbage. Do not allow product to reach sewage system.
Reutilise if possible or contact a waste processors for recycling or safe disposal.
· ***Waste disposal key:***
The European Union does not establish uniform rules for the disposal of chemical waste, which are special waste. Their treatment and elimination of the domestic legislation of each country. So, in each case, you should contact the relevant authorities, or those companies legally authorized for elimination of waste.
2014/955/UE: Council Decision of 18 December 2014 amending the list of wastes contained in Decision 2000/532/EC.
Directive 2008/98/EC of the european parliament and of the council of 18 November 2008, in ist latest valid version.

· ***European waste catalogue***	
HP3	*Flammable*
HP4	*Irritant - skin irritation and eye damage*

· ***Uncleaned packaging:***
The containers and packaging materials contaminated with dangerous substances or preparations, have the same treatment of products.
Directive 94/62/EC of the European Parliament and the Council of 20 December 1994 on packaging and packaging waste.
· ***Recommendation:***
Disposal must be made according to official regulations.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
· ***Recommended cleansing agents:*** *Water, if necessary together with cleansing agents.*

SECTION 14: Transport information

· ***14.1 UN number or ID number***	
· ***ADR/RID, IMDG, IATA***	*Void*
· ***14.2 UN proper shipping name***	
· ***ADR/RID, IMDG, IATA***	*Void*
· ***14.3 Transport hazard class(es)***	
· ***ADR/RID, ADN, IMDG, IATA***	
· ***Class***	*Void*
· ***14.4 Packing group***	
· ***ADR/RID, IMDG, IATA***	*Void*

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· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Not applicable
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable
· **Transport/Additional information:**	
· **ADR/RID**	
· **Remarks:**	§3.3 -> 144
· **IMDG**	
· **Remarks:**	§3.3 -> 144
· **IATA**	
· **Remarks:**	§4.4 -> A58
· **UN "Model Regulation":**	Void

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**

None of the ingredients is listed.

· **Prop 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **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

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

· **REGULATION (EU) 2024/590 on substances that deplete the ozone layer**

None of the ingredients is listed.

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
Wasser	50-100
NK	10-25

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· **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

· **Other regulations, limitations and prohibitive regulations**
0.0 g/l
0.00 %

· **Substances of very high concern (SVHC) according to REACH, Article 57**
None of the ingredients is listed.

· **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.

· **Relevant phrases**
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
· **Department issuing SDS:** Q.A./Normative
· **Date of previous version:** 24.03.2021
· **Version number of previous version:** 19
· **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
RCR : Risk Characterisation Ratio
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
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
ATE: Acute toxicity estimate values
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
· **Sources**
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH, in the latest valid version.
Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version.
Globally Harmonized System, GHS
ADR/RID, IMDG, IATA
PubChem : an open chemistry database at the National Institutes of Health (NIH)
ECHA : European CHemicals Agency
GESTIS : Information system on hazardous substances of the German Social Accident Insurance
· ***** Data compared to the previous version altered.** .