

SAFETY DATA SHEET

According to regulations (CE) No. 1907/2006 and 2015/830



Revision date : 30/09/2016

Version 16.1

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

1.1 Product identifier

Catalogue N: **940**

Product name: **Bromothymol blue**

REACH registration number: This product is a mixture. REACH Registration Number see section 3.

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

Identified uses: Reagent for analysis

1.3 Details of the supplier of the safety data sheet

Company: Laboratoires Dujardin-Salleron 37210 Noizay France Phone +33 (0)2 47 25 58 25
E-mail : info@dujardin-salleron.com - site : www.dujardin-salleron.com

1.4 Emergency telephone number France : INRS : +33 (0)1 45 42 59 59

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (Regulation (EC) N° 1272/2008)

Flammable liquid, category 2, H225

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labeling (Regulation (CE) N° 1272/2008)

Hazard pictograms



Signal words

Danger

Hazard statements

H225 Highly flammable liquid and vapor.

Precautionary statements response.

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

2.3 Other hazards

None to our knowledge in normal use.

SECTION 3. Composition/informations on ingredients

Chemical nature: *Hydroalcoholic solution*

3.1 Substance: not applicable

3.2 Mixture:

Non-hazardous components (REGULATION (EC) No N° 1272/2008)

Chemical name (Concentration):

Bromothymol blue (3',3''-Dibromothymolsulfonphthalein) (< 0.5%)

N°CAS	N° CE	N° REACH	Classification
76-59-5	200-971-2	-	considered as a non-hazardous product

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Hazardous components (REGULATION (EC) No N° 1272/2008)

Ethyl alcohol (Ethanol) (≥ 59% - < 61%)

N°CAS	N° CE	N° REACH	Classification
64-17--5	200-578-6	01-2119457610-43 xxxx	Flammable liquid, category 2, H225

For the full text of the H-Statements mentioned in this section, see Section 16

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

After skin contact: wash off with plenty of water and soap. Remove contaminated clothing.

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

After swallowing: immediately make victim drink water (two glasses at most). In the event of faintness, consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂), alcohol resistant foam, dry powder, water.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible.

Development of hazardous combustion gases or vapors possible in the event of fire: carbon monoxide (CO) and carbon dioxide (CO₂).

5.3 Advice for firefighters

Special protective equipment for firefighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Knock down gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system. Move containers from the danger area, cool them with water.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid mixture contact. Do not breathe vapors, aerosols. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment, see section 8.

6.2 Environmental precautions

Do not discharge to sewers and natural waters.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bundle and pump released products.

Respect possible restrictions for materials (see section 7 and 10).

Never place spilled material in original container. Take up with liquid-absorbent material (e.g. Trivorex® (PREVOR)). Dispose of properly. Clean up affected area. Shovel into suitable and closed container for disposal.

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6.4 Various indications

Remove immediately spillages of material.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions

Advice on protection against fire and explosion:

Keep away from heat, open flames or other sources of ignition.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands after working with mixture.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions:

Store at +15°C to +25°C

Keep container tightly closed in a dry and well ventilated place, away from heat and ignition sources.

7.3 Specific end use(s)

See exposure scenario in the Annex to this SDS.

SECTION 8. Exposure controls / personal protection

8.1 Control parameters

Components with occupational exposure limit values

Ethyl alcohol (Ethanol) (64-17-5)

Base	Value	Threshold limit values	Comment
Limit value for occupational exposure (VLEP France)	Time Weighted Average Threshold Limit Value	1000 ppm 1900 mg/m ³	Indicative limit values
	Short Term Exposure Limit Value	5000 ppm 9500 mg/m ³	Indicative limit values

Derived No Effect Concentration (DNEL)

Worker DNEL, acute	Local effects	inhalation	1900 mg/m ³
Worker DNEL, long term	Systemic effects	dermal	343 mg/kg Body weight
Worker DNEL, long term	Systemic effects	inhalation	950 mg/m ³
Consumer DNEL, acute	Local effects	inhalation	950 mg/m ³
Consumer DNEL, long term	Systemic effects	dermal	206 mg/kg Body weight
Consumer DNEL, long term	Systemic effects	inhalation	114 mg/m ³
Consumer DNEL, long term	Systemic effects	oral	87 mg/kg Body weight

Recommended control procedures

Measuring methods of workplace atmosphere must meet DIN EN 482 and DIN EN 689 standards.

Predictive No Effect Concentration (PNEC)

Ethanol (64-17-5)

PNEC Fresh water	PNEC marine water	PNEC Fresh water sediment	PNEC Soil	PNEC Aquatic intermittent release	Sewage treatment plant	PNEC Oral
0.96 mg/l	3.6 mg/kg	0.79 mg/l	0.63 mg/kg	2.75 mg/l	580 mg/l	720 mg/kg

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8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Eye/face protection

Safety glasses

Hand protection

Wear exclusively suitable gloves, with EC marking. If gloves are to be reused: cleanse before removal and store in a well-ventilated area.

full contact:	Glove material:	Nitrile rubber
	Glove thickness:	0,11 mm
	Break through time:	> 480 min

Splash contact:	Glove material:	Nitrile rubber
	Glove thickness:	0,11 mm
	Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.

Body protection

Wear a chemical resistant protective clothing, with EC marking.

Respiratory protection

Required when vapors/aerosols are generated.

Recommended filter type: A.

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Additional information

Wash hands before breaks and at end of shift. Avoid contact with skin and eyes. When using, do not eat, drink or smoke.

Environmental exposure controls

Do not empty into drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid.
Color	yellow brown.
Odor	alcohol.
Odor Threshold	No information available.
pH	around 4 (20°C).
Melting point	-117 °C (Ethanol 96%).
Boiling point	78°C at 1013 hPa (Ethanol 96%).
Flash point	21°C (Ethanol 70%).
Evaporation rate	No information available.
Flammability (solid, gas)	Flammable liquid and vapors.
Lower explosion limit	3.5% (V) (Ethanol 96%).
Upper explosion limit	15% (V) (Ethanol 96%).
Vapor pressure	About 59 hPa at 20°C (Ethanol 96%)
Relative vapor density	No information available.
Relative density	0.920 g/cm ³ at 20°C (ethanol 60%).
Water solubility	soluble.
Partition coefficient: n- octanol/water	No information available.

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Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as an explosive (However, formation of explosive air/vapor mixtures are possible..
Oxidizing properties	Not applicable.

9.2 Other data

Bulk density	No information available.
Refraction index	No information available.
Dissociation constant	No information available.
Surface tension	No information available.
Henry constant	No information available.

SECTION 10. Stability and reactivity

10.1 Reactivity

Vapors may form explosive mixtures with air.

10.2 Chemical stability

The product is chemically stable for 6 months under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

(Ethanol 96%)

Risk of explosion/exothermic reaction with:

hydrogen peroxide, perchlorates, perchloric acid, nitric acid, mercury(II) nitrate, permanganic acid, nitriles, peroxi compounds, strong oxidizing agents, nitrosyl compounds, peroxides, sodium, potassium, halogen oxides, calcium hypochlorite, nitrogen dioxide, metallic oxides, uranium hexafluoride, iodides, chlorine, alkali metals, alkaline earth metals, alkali oxides, ethylene oxide, silver with nitric acid, silver compounds, with ammonia, potassium permanganate with conc. sulfuric acid

Risk of ignition or formation of inflammable gases or vapors with:

halogen-halogen compounds, chromium(VI) oxide, chromyl chloride, fluorine, hydrides, oxides of phosphorus, platinum.

10.4 Conditions to avoid

Warming, flames and sparks.

10.5 Incompatible materials

rubber, various plastics

10.6 Hazardous decomposition products in the event of fire

No information available.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

<i>Acute oral toxicity</i>	No information available.
<i>Acute inhalation toxicity</i>	No information available.
<i>Acute dermal toxicity</i>	No information available.
<i>Skin irritation</i>	No information available.
<i>Eye irritation</i>	No information available.
<i>Sensitization (skin, inhalation)</i>	No information available.
<i>Specific target organ toxicity - single exposure</i>	No information available.
<i>Specific target organ toxicity - repeated exposure</i>	No information available.

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CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity No information available.

Mutagenicity No information available.

Reproductive toxicity No information available.

Aspiration hazard No information available.

11.2 Further information

Handle in accordance with good industrial hygiene and safety practice.

Components

Ethanol 96

Acute oral toxicity

LD50 rat: 6.200 mg/kg (IUCLID)

Symptoms: nausea, vomiting.

Acute inhalation toxicity

LC50 rat: 95.6 mg/kg, 4 h (RTECS)

Symptoms: slight mucosal irritations.

Acute dermal toxicity

Result: no irritation

OECD Test Guideline 404

Repeated and prolonged exposure may cause skin irritation and dermatitis due to degreasing properties of the product.

Eye irritation

This information is not available.

Sensitization

Sensitization test (Magnusson and Kligman)

Result: negative (IUCLID).

Genotoxicity in vitro

Ames test Salmonella typhimurim

Result: negative. (National Toxicology program).

Cancerogenicity

This information is not available.

Toxicity for reproduction

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

Further information

Systemic effect: euphoria

If absorbed in large quantities: dizziness, inebriation, narcosis, respiratory paralysis.

Handle in accordance with good industrial hygiene and safety practice

SECTION 12. Ecological Information

Mixture

12.1 Ecotoxicity

Acute (short-term) fish toxicity

LC50 - EC50 - species - exposure time No information available.

Chronic (long-term) fish toxicity

LC50 - EC50 - species - exposure time No information available.

Acute (short-term) daphnia toxicity

LC50 - EC50 - species - exposure time No information available.

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Chronic (long-term) daphnia toxicity LC50 - EC50 - species - exposure time	No information available.
Acute (short-term) algae toxicity LC50 - EC50 - species - exposure time	No information available.
Chronic (long-term) algae toxicity LC50 - EC50 - species - exposure time	No information available.
12.2 Persistence and degradability	No information available.
12.3 Bioaccumulative potential	No information available.
12.4 Mobility in soil	No information available.
12.5 Results of PBT and vPvB assessment	No information available.
12.6 Other adverse effects	No information available.

Discharge into the environment must be avoided.

Components

Ethanol 96

Toxicity to fish

LC50 *Leuciscus idus* (Golden orfe): 8.140 mg/l; 48 h (anhydrous substance) (IUCLID).

Toxicity for daphnia and other aquatic invertebrates

EC5 *E. sulcatum*: 65 mg/l; 72 h (lit.)

EC50 *Daphnia magna*: 9.268 -14.221 mg/l mg/l; 48 h (IUCLID)

Toxicity to algae

IC5 *Scenedesmus quadricauda* (green algae): 5,000 mg/l; 7 d (Lit.)

Toxicity to bacteria

EC5 *Pseudomonas putida*: 6.500 mg/l; 16 h (IUCLID)

Biological oxygen demand (BOD): 930 - 1.670 mg/g (5 d) (Lit.)

Theoretical oxygen demand (ThOD): 2.100 mg/g (Lit.)

Ratio COD/ThBOD: 90% (Lit.)

Bioaccumulative potential

Partition coefficient: n-octanol/water: log Pow: -0,31 (expérimental) (Lit.)

Bioaccumulation is not expected.

Mobility in soil

No information available

Results of PBT and vPvB assessment

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Additional ecological information

No interference with wastewater treatment plants are to be expected when used properly.

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

Waste treatment methods

Waste must be disposed of in accordance with the Directive on waste 2008/98/EC and with local and national regulations. Leave chemicals in original containers. No mixing with other waste. Treat uncleaned containers like the product itself.

SECTION 14. Transport information

Land transport (ADR/RID)

UN number	1170
Proper shipping name	ETHANOL SOLUTION
Class	3
Packing group	II
Environmentally hazardous	no
Tunnel restriction code	D/E

Air transport (IATA)

UN number	1170
Proper shipping name	ETHANOL SOLUTION
Class	3
Packing group	II
Environmentally hazardous	no

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Sea transport (IMDG)

UN number	1170
Proper shipping name	ETHANOL SOLUTION
Class	3
Packing group	II
Marine pollutant	no
No EmS	F-E S-D
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	
Not relevant	

SECTION 15. Regulatory information

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

UE regulations

Aquatic Class risk (WGK)	WGK1 (slightly hazardous for water).
Occupational restrictions	Take note of Directive 94/33/EC on the protection of young people at work and Directive 92/85/EEC on the safety and health at work of pregnant women
Substances of very high concern (SVHC)	This product does not contain substances of very high concern above the respective regulatory limit (> 0.1% w/w) Regulation (EC) N° 1907/2006 (REACH), Article 57

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under section 3

H225 Highly flammable liquid and vapor

Training advice

Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

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ANNEX: Extract of exposure scenario (ES no 1) of workers and environment applicable to professional use of substance ethanol, in accordance with requirements of the REACH Regulation (EC no 1907/2006)

1. Industrial use (Pharmaceutical production, Cosmetic raw material)

Sectors of end-use

SU 3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU 10 Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)

Chemical product category

PC19 Intermediate

PC39 Cosmetics, personal care products

Process categories

PROC15 Use as laboratory reagent

Environmental Release Categories

ERC1 Manufacture of substances

ERC2 Formulation of preparations

ERC4 Industrial use of processing aids in processes and products, not becoming part of articles

ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)

2. Contributing scenarios: Operational conditions and risk management measures

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC4, ERC6a

Amount used

Annual amount per site 400000 t

Environment factors not influenced by risk management

Flow rate 18,000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year 350

Emission or Release Factor: Air 70 %

Emission or Release Factor: Water 87 %

Conditions and measures related to municipal sewage treatment plan

Type of Sewage Treatment Plant Municipal sewage treatment plant

Effectiveness (of a measure) 90 %

2.2 Contributing scenario controlling environmental exposure for: ERC2

Amount used

Annual amount per site 75000 t

Environment factors not influenced by risk management

Flow rate 18,000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year 300

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant Municipal sewage treatment plant

Effectiveness (of a measure) 90 %

2.3 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC14, PROC15

Product characteristics

Concentration of the Substance in Mixture/Article Covers the percentage of the substance in the product up to 100 %.

Physical Form (at time of use) High volatile liquid

Frequency and duration of use

Frequency of use 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor Indoor without local exhaust ventilation (LEV)

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice Wear suitable gloves (tested to EN374) and eye protection.

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3. Exposure estimation and reference to its source

Environment

CS	Use descriptor	Msafe	Compartment	RCR	Exposure Assessment Method
2.1	ERC1		Fresh water Marine water Soil	< 0.01 < 0.01 < 0.01	ECETOC TRA ECETOC TRA ECETOC TRA
2.1	ERC4		Fresh water Marine water Soil	< 0.01 < 0.01 < 0.01	ECETOC TRA ECETOC TRA ECETOC TRA
2.1	ERC6a		Fresh water Marine water Soil	< 0.01 < 0.01 < 0.01	ECETOC TRA ECETOC TRA ECETOC TRA
2.2	ERC2		Fresh water Marine water Soil	0.11 0.01 < 0.01	ECETOC TRA ECETOC TRA ECETOC TRA

Workers

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.1	PROC15	long term, inhalation, systemic long term, dermal, systemic long term, combined, systemic	0.10 < 0.01 0.10	ECETOC TRA3 ECETOC TRA3

The default parameters and -efficiencies of the applied exposure assessment model were used for the calculation (unless stated differently).

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterization and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).