Safety Data Sheet

according to UK REACH Regulation

Toluidine Blue 0.05 % (with TRITON X-100 0.5 %)

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

1.1. Product identifier

Toluidine Blue 0.05 % (with TRITON X-100 0.5 %)

UFI: AR8F-G1XV-S00N-5WUW

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

Use of the substance/mixture

Use as laboratory reagent. The product is intended for research, analysis and scientific education.

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name:	MORPHISTO GmbH	
Street:	Schumannstr. 144	
Place:	D-63069 Offenbach	
Telephone:	+49 (0) 69 / 400 3019-60	Telefax: +49 (0) 69 / 400 3019-64
E-mail:	info@morphisto.de	
Contact person:	Morphisto GmbH	
E-mail:	gefahrstoffmanagement@morphisto.de	
Internet:	http://www.morphisto.de	

1.4. Emergency telephone number:

Morphisto GmbH, Tel: +49(0)69 400 3019-60, Mo-Fr.: 09-16 Uhr

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.

Labelling of packages where the contents do not exceed 125 ml

Hazard statements

H412

2.3. Other hazards

Endocrine disrupting properties: Polyethylene glycol [4-(1,1,3,3-tetramethylbutyl)phenyl] ether.
This mixture does not contain any components at concentrations of 0.1% or higher that are classified as either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) according to REACH, Annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
9036-19-5	Polyethylene glycol [4-(1,1,3,3-tetramethylbutyl)phenyl] ether			< 1 %
	618-541-1			
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H302 H315 H318 H400 H410			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
9036-19-5	618-541-1	Polyethylene glycol [4-(1,1,3,3-tetramethylbutyl)phenyl] ether	< 1 %
	dermal: LD50 = >3000 mg/kg; oral: LD50 = 1900-5000 mg/kg Aquatic Acute 1; H400: M=10		

Further Information

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: Polyethylene glycol [4-(1,1,3,3-tetramethylbutyl)phenyl] ether (CAS: 9036-19-5)

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Provide fresh air. Remove casualty to fresh air and keep warm and at rest. Take off immediately all contaminated clothing. Ventilate affected area.

After inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. In case of skin irritation consult a doctor

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. Call a physician immediately.

After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water. Call a physician immediately.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture

Non-flammable. In case of fire may be liberated: Ethylene oxide.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Ensure adequate ventilation.

For non-emergency personnel

Clear danger zone. Follow emergency plan. Consult an expert.

For emergency responders

Move undamaged containers from immediate hazard area if it can be done safely.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Avoid release to the environment. Clean contaminated articles and floor according to the environmental legislation.

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Clean contaminated articles and floor according to the environmental legislation.

Other information

Ventilate affected area.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Wear suitable protective clothing. Avoid contact with skin, eyes and clothes. Take off contaminated clothing and wash it before reuse. Always close containers tightly after the removal of product. Provide adequate ventilation as well as local exhaustion at critical locations.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Advice on general occupational hygiene

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff. Draw up and observe skin protection programme.

Further information on handling

Wear suitable protective clothing. Street clothing should be stored seperately from work clothing.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep the packing dry and well sealed to prevent contamination and absorbtion of humidity. Store in a cool dry place. Provide adequate ventilation as well as local exhaustion at critical locations.

Hints on joint storage

Do not store together with: food and feed. pharmaceuticals. Infectious substances. Radioactive substances. Explosive substances. Oxidizing substances. Oxidizing liquids. Organic peroxides. Self-reactive substances and mixtures. Pyrophoric solids. Substances which in contact with water form flammable gases. Ammonium

nitrate and preparations containing ammonium nitrate.

Further information on storage conditions

Protect against: UV-radiation/sunlight. Humidity heat. frost.
Recommended storage temperature: 15-25 °C.

7.3. Specific end use(s)

Use as laboratory reagent. The product is intended for research, analysis and scientific education.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. Provide adequate ventilation as well as local exhaustion at critical locations. Provide washing facilities at the workplace, provide an eye shower or eyewash bottle and mark them.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection. Suitable eye protection: Eye glasses with side protection

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
Suitable gloves type NBR (Nitrile rubber).
Thickness of material0,3mm.
Breakthrough time (maximum wearing time): >480 min.
Protect skin by using skin protective cream.

Skin protection

Use of protective clothing. Lab apron.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.
Type: A-P2.
Identification color: brown/white.

Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid	
Colour:	blue	
Odour:	odourless	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		100 °C
Flammability:		not determined
Lower explosion limits:		not determined
Upper explosion limits:		not determined

Flash point:	not determined
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value (at 20 °C):	4-5
Viscosity / kinematic:	not determined
Water solubility: (at 20 °C)	easily soluble
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 20 °C)	23 hPa
Vapour pressure: (at 50 °C)	123 hPa
Density (at 20 °C):	1,00 g/cm³
Relative vapour density:	not determined
Particle characteristics:	not applicable

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive.

Sustaining combustion: Not sustaining combustion

Oxidizing properties

The product is not: oxidising.

Other safety characteristics

Evaporation rate: not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Violent reaction with: Oxidizing agents, strong.

10.4. Conditions to avoid

Keep away from heat.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

In case of fire may be liberated: Ethylene oxide(C2H4O).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Acute toxicity

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
9036-19-5	Polyethylene glycol [4-(1,1,3,3-tetramethylbutyl)phenyl] ether				
	oral	LD50 1900-5000 mg/kg	Rat	SDS external	
	dermal	LD50 >3000 mg/kg	Rabbit	SDS external	OECD Prüfrichtlinie 404

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

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.

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain any substance that has endocrine disrupting properties in humans as no ingredient meets the criteria.

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
9036-19-5	Polyethylene glycol [4-(1,1,3,3-tetramethylbutyl)phenyl] ether					
	Acute fish toxicity	LC50 0,26 mg/l	96 h	Leuciscus idus (golden orfe)	SDS external	OECD 203
	Acute algae toxicity	ErC50 1,9 mg/l	96 h	Pseudokirchneriella subcapitata	SDS external	
	Acute crustacea toxicity	EC50 0,011 mg/l	48 h	Daphnia magna (Big water flea)	SDS external	

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
9036-19-5	Polyethylene glycol [4-(1,1,3,3-tetramethylbutyl)phenyl] ether	2,7

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

12.6. Endocrine disrupting properties

Endocrine disrupting properties: Polyethylene glycol [4-(1,1,3,3-tetramethylbutyl)phenyl] ether.

12.7. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. Hazardous waste according to Directive 2008/98/EC (waste framework directive). Hazardous waste according to the Waste List Ordinance (AVV). The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

List of Wastes Code - residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Authorisations (REACH, annex XIV):

Polyethylene glycol [4-(1,1,3,3-tetramethylbutyl)phenyl] ether

Restrictions on use (REACH, annex XVII):

Entry 3

Information according to Directive 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	3 - highly hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,2,3,4,5,6,7,8,9,10,11,12,13,15,16.

Rev. 1,0, 12.02.2021,Initial release"Sunset Date Article".

Rev. 2,0; 26.01.2024; general adjustment(s), Change of classification/labeling

Abbreviations and acronyms

Acute Tox: Acute toxicity
Skin Irrit: Skin irritation
Eye Dam: Eye damage
Aquatic Acute: Acute aquatic hazard
Aquatic Chronic: Chronic aquatic hazard
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
VOC: Volatile Organic Compounds
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at http://abbrev.esdscom.eu
EC/EEC: European Community/European Economic Community
EU: European Union
M-factor: Multiplying factor
IATA: International Air Transport Association
DGR: Dangerous Goods Regulations
ICAO: International Civil Aviation Organization
TI: Technical Instructions
VOC: volatile organic compound
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)