

Safety Data Sheet

according to UK REACH Regulation

Nuclear Blue Solution

Revision date: 26.04.2022

Product code: CS-0002

Page 1 of 9

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

1.1. Product identifier

Nuclear Blue Solution

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

Use of the substance/mixture

The product is intended for professional use.

1.3. Details of the supplier of the safety data sheet

Company name:	ZytoVision GmbH	
Street:	Fischkai 1	
Place:	D-27572 Bremerhaven	
Telephone:	+49 (0) 471/4832-300	Telefax: +49 (0) 471/4832-509
e-mail:	info@zytovision.com	
Internet:	www.zytovision.com	

1.4. Emergency telephone number: +49 (0) 471/4832-300
9am - 5pm (CET)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

STOT RE 2; H373

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

ethanediol, ethylene glycol

Signal word: Warning

Pictograms:



Hazard statements

H373 May cause damage to kidneys through prolonged or repeated exposure if swallowed.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P314 Get medical advice/attention if you feel unwell.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Warning

Pictograms:



2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

Safety Data Sheet

according to UK REACH Regulation

Nuclear Blue Solution

Revision date: 26.04.2022

Product code: CS-0002

Page 2 of 9

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
107-21-1	ethanediol, ethylene glycol			20 - < 40 %
	203-473-3	603-027-00-1	01-2119456816-28	
	Acute Tox. 4, STOT RE 2; H302 H373			
64-19-7	Acetic acid ... %			< 20 %
	200-580-7	607-002-00-6		
	Flam. Liq. 3, Met. Corr. 1, Skin Corr. 1A; H226 H290 H314			

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	
107-21-1	203-473-3	ethanediol, ethylene glycol	20 - < 40 %
		oral: LD50 = 7712 mg/kg	
64-19-7	200-580-7	Acetic acid ... %	< 20 %
		oral: LD50 = 3310 mg/kg Skin Corr. 1A; H314: >= 90 - 100 Skin Corr. 1B; H314: >= 25 - < 90 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25	

SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation

Provide fresh air. Medical treatment necessary.

After contact with skin

Wash with plenty of water. Immediately remove any contaminated clothing, shoes or stockings. Medical treatment necessary.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

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.

5.3. Advice for firefighters

Safety Data Sheet

according to UK REACH Regulation

Nuclear Blue Solution

Revision date: 26.04.2022

Product code: CS-0002

Page 3 of 9

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

Additional information

Suppress gases/vapours/mists with water spray jet. 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

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

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.

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

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

Hints on joint storage

No special measures are necessary.

Further information on storage conditions

Store, tightly closed, in the original vessel at conditions indicated on the label.

7.3. Specific end use(s)

The product is intended for professional use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Safety Data Sheet

according to UK REACH Regulation

Nuclear Blue Solution

Revision date: 26.04.2022

Product code: CS-0002

Page 4 of 9

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
64-19-7	Acetic acid	10	25		TWA (8 h)	WEL
		20	50		STEL (15 min)	WEL
107-21-1	Ethane-1,2-diol, vapour	20	52		TWA (8 h)	WEL
		40	104		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
107-21-1	ethanediol, ethylene glycol			
	Worker DNEL, long-term	inhalation	local	35 mg/m ³
	Worker DNEL, long-term	dermal	systemic	106 mg/kg bw/day
64-19-7	Acetic acid ... %			
	Worker DNEL, long-term	inhalation	local	25 mg/m ³
	Worker DNEL, acute	inhalation	local	25 mg/m ³

PNEC values

CAS No	Substance	Value
	Environmental compartment	
107-21-1	ethanediol, ethylene glycol	
	Freshwater	10 mg/l
	Marine water	1 mg/l
	Freshwater sediment	37 mg/kg
	Marine sediment	3,7 mg/kg
	Soil	1,53 mg/kg
64-19-7	Acetic acid ... %	
	Freshwater	3,059 mg/l
	Marine water	0,306 mg/l
	Freshwater sediment	11,36 mg/kg
	Marine sediment	1,136 mg/kg
	Soil	0,47 mg/kg

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face 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.

Safety Data Sheet

according to UK REACH Regulation

Nuclear Blue Solution

Revision date: 26.04.2022

Product code: CS-0002

Page 5 of 9

Skin protection

Use of protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	violet
Odour:	characteristic

Changes in the physical state

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Flash point:	not determined

Flammability

Solid/liquid:	not applicable
Gas:	not applicable

Explosive properties

The product is not: Explosive.

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value:	not determined
Water solubility:	easily soluble

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density:	not determined
Relative vapour density:	not determined

9.2. Other information

Information with regard to physical hazard classes

Oxidizing properties

The product is not: oxidising.

Other safety characteristics

Solid content:	not determined
Evaporation rate:	not determined

Further Information

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

Safety Data Sheet

according to UK REACH Regulation

Nuclear Blue Solution

Revision date: 26.04.2022

Product code: CS-0002

Page 6 of 9

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

none

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

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.

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
107-21-1	ethanediol, ethylene glycol					
	oral	LD50 mg/kg	7712	Rat	ECHA	
64-19-7	Acetic acid ... %					
	oral	LD50 mg/kg	3310	Rat	GESTIS	

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

May cause damage to organs through prolonged or repeated exposure. (ethanediol, ethylene glycol)

Aspiration hazard

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

Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

The product is not: Ecotoxic.

Safety Data Sheet

according to UK REACH Regulation

Nuclear Blue Solution

Revision date: 26.04.2022

Product code: CS-0002

Page 7 of 9

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
107-21-1	ethanediol, ethylene glycol					
	Acute fish toxicity	LC50 mg/l	72860	96 h	fish	ECHA
	Acute crustacea toxicity	EC50 mg/l	>100	48 h	aquatic invertebrates	ECHA
64-19-7	Acetic acid ... %					
	Acute fish toxicity	LC50 mg/l	>300.82	96 h	Oncorhynchus mykiss (Rainbow trout)	ECHA
	Acute algae toxicity	ErC50 mg/l	>300.82	72 h	Skeletonema costatum	ECHA
	Acute crustacea toxicity	EC50	65 mg/l	48 h	Daphnia magna	Janssen et al

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
64-19-7	Acetic acid ... %	-0,17

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.

The product has not been tested.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Contaminated packaging

Hazardous waste according to Directive 2008/98/EC (waste framework directive). 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.

Safety Data Sheet

according to UK REACH Regulation

Nuclear Blue Solution

Revision date: 26.04.2022

Product code: CS-0002

Page 8 of 9

<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.
Inland waterways transport (ADN)	
<u>14.1. UN number or ID number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.
Marine transport (IMDG)	
<u>14.1. UN number or ID number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.
Air transport (ICAO-TI/IATA-DGR)	
<u>14.1. UN number or ID number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.
<u>14.6. Special precautions for user</u>	No dangerous good in sense of this transport regulation.
<u>14.7. Maritime transport in bulk according to IMO instruments</u>	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

Restrictions on use (REACH, annex XVII):

Entry 3

Information according to 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):

1 - slightly 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): 2,4,5,6,7,8,9,10,11,12,13,14,15,16.

Abbreviations and acronyms

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%

Safety Data Sheet

according to UK REACH Regulation

Nuclear Blue Solution

Revision date: 26.04.2022

Product code: CS-0002

Page 9 of 9

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
 SVHC: Substance of Very High Concern
 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
STOT RE 2; H373	Calculation method

Relevant H and EUH statements (number and full text)

H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H373	May cause damage to kidneys through prolonged or repeated exposure if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.

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 hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)