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

1.1. Product identifier **4x Protein Loading Buffer Plus**

Catalogue number: E269-01

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: laboratory reagents, scientific research purposes
Uses advised against: not specified

1.3. Details of the supplier of the safety data sheet
Producer: **EURxSp.zo.o**
80-297Gdańsk
ul. Przyrodnikow 3
Poland

E-mail address of the person responsible for data sheet: eurx@eurx.com.pl

1.4. Emergency telephone number 112 (Emergency telephone)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
According to Reg. 1272/2008

Acute Tox. 3; H311
Acute Tox. 4; H302
Eye Dam. 1; H318
Skin Irrit. 2; H315
Skin Sens. 1; H317
Aquatic Chronic 2; H411

Human health dangers:
Toxic in contact with skin
Harmful if swallowed
Causes serious eye damage
Causes skin irritation
May cause an allergic skin reaction

Environmental hazards:
May cause long lasting harmful effects to aquatic life
Physic-chemical hazards:
None.

2.2. Label elements
Pictograms:



Signal Word: Warning

Hazard Statement (H):
H302 - .Harmful if swallowed
H311 - Toxic in contact with skin
H315 - Causes skin irritation

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H317 - .May cause an allergic skin reaction

H318 - Causes serious eye damage

H413 - May cause long lasting harmful effects to aquatic life

Precautionary Statement (P):

Prevention:

P280 - Wear protective gloves/protective clothing/eye protection/face protecti

To respond:

P305+P351+P338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing

P333+P313 - IF skin irritation or a rash occurs: Get medical advice/attention

Storage:

P405 - Store locked up

EUH208: Contains <*2-Mercaptoethanol*> May produce an allergic reaction.

2.3. Other hazards

The product contains no substance meet the criteria for PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable.

3.2. Mixtures

Hazardous components:

Product identifier	Contains [%]	Classification CLP	
		Hazard Class and Category Code(s)	Hazard Statement Code(s)
SDS CAS No.: 151-21-3 EINECS No.: 205-788-1 Index No.:- REACH No.: 01-2119489461-32-XXXX	<8	Flam. Sol. 1 Acute Tox. 4 Acute Tox. 4 Skin Irrit. 2 Eye Dam. 1 STOT SE 3 Aquatic Chronic 3	H228 H302 H332 H315 H318 H335 H412
2-Mercaptoethanol CAS No.: 60-24-6 EINECS No.: 200-464-6 Index No.:- REACH No.: substance falls within the remit transitional period	≤ 5	Acute Tox. 3 Acute Tox. 2 Acute Tox. 3 Skin Irrit. 2 Eye Dam. 1 Skin Sens. 1 STOT RE 2 Aquatic Acute 1 Aquatic Chronic 1	H301 H310 H331 H315 H318 H317 H373 H400 H410

For full text of H-statements: see SECTION 16

Components with Occupational Exposure Limits:
Glycerol (CAS: 56-81-5): <50%
SECTION 8

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SECTION 4: First Aid measures

4.1. Description of first aid measures

Skin contact

Wash contaminated skin with soap and water, rinse thoroughly with water, in case of irritation, redness. Immediately consult your doctor.

Eye contact

Rinse with plenty water (15min). Avoid strong water jet because of the danger of damage to the cornea. Consult your doctor.

Inhalation

Move to fresh air. Consult a physician if any symptoms develop and persist.

Ingestion

Do not induce vomiting. Rinse mouth with water. Give to drink a glass of water if victim is conscious Consult your doctor.

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

Not applicable.

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

The decision about how to proceed after the physical assessment of the victim.

SECTION 5: Fire Fighting measures

5.1. Extinguishing media

Suitable extinguishing media: Powder, alcohol resistance foam. Use extinguishing methods appropriate to surrounding conditions.

Unsuitable extinguishing media: Do not use a direct water jet.

5.2. Special hazards arising from the substance or mixture

Not applicable.

5.3. Advice for firefighters

Containers in fire area cooled with water spray, if it is possible to remove the danger zone. Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes. Do not allow fire-fighting water run-off into surface water, groundwater and sewer.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: to notify the appropriate service. Remove from the threats all person who does not participate in the removal of failure.

For emergency responders: Ensure adequate ventilation.

6.2. Environmental Precautions

Do not discharge into the drains/surface water/groundwater.

6.3. Methods and material for containment and cleaning up

Prevent spreading. Remove with inert absorbent (e.g. sand or vermiculite), and place in a close containers and hold for waste disposal.

6.4. Reference to other sections

Disposal considerations – see section 13.

Personal precautions – see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Ensure adequate ventilation. Work in accordance with the principles of safety and hygiene: Do not eat, drink and smoke at work, wash your hands after use, remove contaminated clothing and protective equipment before entering places for meals.

7.2. Conditions for safe storage, including any incompatibilities
The product stored in a cool, dry, well ventilated room, in the tightly closed container. Protect from direct sunlight.

7.3. Specific end use(s)
See section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Occupational Exposure Limits: **Glycerol (CAS: 56-81-5): <50%**

Country	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m³	ppm	mg/m³
Australia	-	10 (1)	-	mg/m³
Belgium	-	10	-	-
Canada - Ontario	-	10	-	-
Canada - Québec	-	10	-	-
Finland	-	20	-	-
France	-	10	-	-
Germany (AGS)	-	200 (1)	-	-
Germany (DFG)	-	200 (1)	-	400 (1)(2)
Ireland	-	10	-	400 (1)(2)
Malaysia	-	10 TWA mist	-	-
New Zealand	-	10 (1)	-	-
Poland	-	10	-	-
Singapore	-	10	-	-
South Korea	-	10	-	-
Spain	-	10	-	-
Switzerland	-	50 inhalable aerosol	-	-
USA - OSHA	-	15 inhalable dust	-	100 inhalable aerosol
	-	5 respirable dust	-	-
United Kingdom	-	10	-	-

Remarks	
Australia	(1) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.
Germany (AGS)	1) Inhalable fraction (2) 15 minutes average value
Germany (DFG)	1) Inhalable fraction (2) 15 minutes average value
New Zealand	1) The value for inhalable dust containing no asbestos and less than 1% free silica.
Malaysia	TWA- time weighted average, eight (8) hours unless otherwise specified

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SDS:

DNEL

ORAL Exposure	long-term	human population	24 mg/kg
DERMAL Exposure	long-term	employee	4060 mg/kg
		human population	2440 mg/kg
INHALATION Exposure	long-term	employee	285 mg/m3
		human population	85 mg/m3

PNEC

Aquatic environment	Freshwater	0,137 mg/l
	Marine water	0,0137 mg/l
	Sediment freshwaters	4,82 mg/kg
	Sediment marine waters	0,482 mg/kg
Terrestial environment	soil	0,882 mg/kg

8.2. Exposure controls
Appropriate engineering controls: Use in well-ventilated rooms.

Individual protection measures, such as personal protective equipment:





Eye / face protection:
Use safety glasses or face shield (according to EN 166 (WE) or NIOSH (USA).
Skin protection
Hand protection:
It is recommended to use protective gloves resistant to chemicals in accordance with EN-PN 374:2005.
Recommended materials: Nitrile rubber (thickness> 0.11mm, penetration time> 480min.).
The selection of suitable gloves does not only depend on the material, but also on the brand and quality resulting from differences in manufacturers. Resistance of the material, the glove can be determined after the tests. The exact time of the destruction of the protective gloves must be determined by the manufacturer.
Other:
Protective clothing.
Respiratory protection:
Avoid breathing vapors. If there is a risk of exposure to concentrated vapors, use a mask with organic vapor filter (according to EN 143).

Thermal hazards:
Not applicable.
Environmental exposure controls:
Not allowed to spread in the environment and run-off into drains and watercourses.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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Appearance	liquid
Colour	Not applicable
Odour	characteristic
Odour threshold	Not applicable
pH	Not applicable
Melting point/freezing point	Not applicable
Initial boiling point and boiling range	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability	Not applicable
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density	App. 1g/cm^3
Partition coefficient: n-octanol/water	Not applicable
Auto-ignition temperature	Not applicable
Solubility(ies)	Not applicable
Decomposition temperature	Not applicable
Viscosity;	Not applicable
Explosive properties	Not applicable
Oxidising properties	Not applicable

9.2. Other information
None.

SECTION 10: Stability and reactivity

10.1. Reactivity
None.
10.2. Chemical stability
Under normal circumstances the product is stable.
10.3. Possibility of hazardous reactions
None.
10.4. Conditions to avoid
Direct sunlight, hot surfaces and open flames.
10.5. Incompatible materials
Strong oxidizing agents.

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10.6. Hazardous decomposition products
Emits toxic fumes under fire conditions: carbon monoxide, nitrogen oxides, hydrogen chloride.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
(a) acute toxicity: Based on the available data, the classification criteria are not met
(b) skin corrosion/irritation: Based on the available data, the classification criteria are not met
(c) serious eye damage/irritation: **Causes serious eye damage**
(d) respiratory or skin sensitisation: Based on the available data, the classification criteria are not met
(e) germ cell mutagenicity: Based on the available data, the classification criteria are not met
(f) carcinogenicity: Based on the available data, the classification criteria are not met
(g) reproductive toxicity: Based on the available data, the classification criteria are not met
(h) STOT-single exposure: Based on the available data, the classification criteria are not met
(i) STOT-repeated exposure: Based on the available data, the classification criteria are not met
(j) aspiration hazard: Based on the available data, the classification criteria are not met

Name of component			organisms	Route of exposure
SDS	LD50	> 2000 mg/kg	*Oryctolagus sp.*	skin
	LD50	1288 mg/kg	*Rattus sp.*	oral
2-Mercaptoethanol	LD50	98-162mg/kg	*Rattus sp.*	oral
	LC50	2mg/l-4h 625ppm-4h	*Rattus sp*	exhaust
	LD50	112mg/kg	*Oryctolagus sp.*	skin

SECTION 12: Ecological information

12.1. Toxicity

Name of component			organisms/species		exposure
SDS	LC50	41 mg/l	fish	-	96h
	EC50	>100 mg/l	daphnia and other invertebrates	*Daphnia magna*	24 h
	EC50	>100 mg/l	algae	-	72 h
2-Mercaptoethanol	LC50	46-100mg/l	fish	*Leucidus idus*	96h
	EC50	0,89mg/l	daphnia and other invertebrates	*Daphnia magna*	48h
	EC50	12mg/l	algae	*Desmodesmus subspicatus*	72h
	LC50	125mg/l	bacteria	-	17h

12.2. Persistence and degradability
No data available.
12.3. Bioaccumulative potential
No data available.
12.4. Mobility in soil
General instuctions:
Do not allow to enter groundwater, surface water or sewage system. Harmful to drinking water even when minimum quantities are allowed to enter the ground.
12.5. Results of PBT and vPvB assessment
The product contains no substance meet the criteria for PBT or vPvB.

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12.6. Other adverse effects
Not applicable.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste: The code must be given individually depending on industry and location of use.
Packaging: Dispose of product waste in accordance with local regulations. The packaging is recyclable

EU REGULATIONS
Directive 2008/98/EC Of The European Parliament And Of The Council of 19 November 2008 on waste and repealing certain Directives

SECTION 14: Transport information

ADR/RID/IMDG/ICAO:
14.1. UN number
2966
14.2. UN proper shipping name
TIOGLYCOL
14.3. Transport hazard class(es)
6.1
14.4. Packing group
II
14.5. Environmental hazards
environmentally damaging, liquid
14.6. Special precautions for user
Warning, poisonous materials
Kemlers number: 60
EMS No.: F-A,S-A
Stowage Category: A
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Limited Quantities-100 ml
Exempt Quantities (EQ) Kod: E4 Maximum net quantity per inner package : 1 ml

SECTION 15: Regulatory information

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

EU REGULATIONS:

1. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.
2. Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
3. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance).
4. Directive 2008/98/EC Of The European Parliament And Of The Council of 19 November 2008 on waste and repealing certain Directives

15.2. Chemical safety assessment
No chemical safety assessments for the mixture.

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SECTION 16: Other information

Abbreviations and acronyms, list of relevant hazard statements used in the safety data sheet:
H228 – Flammable solid
H301 – Toxic if swallowed
H302 – Harmful if swallowed
H310 – Fatal in contact with skin
H311 – Toxic in contact with skin
H331 – Toxic if inhaled
H332 – Harmful if inhaled
H315 – Causes skin irritation
H317 – May cause an allergic skin reaction
H318 – Causes serious eye damage
H335 – May cause respiratory irritation
H373 – May cause damage to organs through prolonged or repeated exposure
H400 – Very toxic to aquatic life
H410 – Very toxic to aquatic life with long lasting effects
H411 – Toxic to aquatic life with long lasting effects
H412 – Harmful to aquatic life with long lasting effects
H413 – May cause long lasting harmful effects to aquatic life
Acute Tox. 2 – Acute toxicity cat .2
Acute Tox. 3 – Acute toxicity cat .3
Acute Tox. 4 – Acute toxicity cat .4
Flam. Sol. 1 – Flammable solid cat 1
Skin Sens. 1 – Skin sensitization cat.1
Skin Irrit. 2 – Skin irritation cat. 2
Eye Dam. 1 – Serious eye damage cat.1
STOT RE 2 –Specific target organ toxicity – repeated exposure cat. 2
STOT SE 3 – Specific target organ toxicity – single exposure cat 3
Aquatic Acute 1 – Hazardous to the aquatic environment cat 1
Aquatic Chronic 1 – Hazardous to the aquatic environment cat 1
Aquatic Chronic 2 – Hazardous to the aquatic environment cat 2
Aquatic Chronic 3 – Hazardous to the aquatic environment cat 3
DNEL – derived no-effect level
PNEC – predicted no-effect concentration
ATE – Acute Toxicity Estimate
LC50 – lethal concentration, 50%
LD50 – lethal dose, 50%
EC50 – effective concentration, 50%
NOEC – no observed effects concentration
PBT – Persistent, Bioaccumulative and Toxic
vPvB – very Persistent and very Bioaccumulative
ADR – International Carriage of Dangerous Goods by Road
RID – International Carriage of Dangerous Goods by Rail
IMDG – International Maritime Dangerous Goods
ICAO – Safe Transport of Dangerous Goods by Air
PBT – Persistent, Bioaccumulative and Toxic
vPvB – very Persistent and very Bioaccumulative
ADR – International Carriage of Dangerous Goods by Road
RID – International Carriage of Dangerous Goods by Rail
IMDG – International Maritime Dangerous Goods
ICAO – Safe Transport of Dangerous Goods by Air

Method of classification: additivity aproach

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Training: Before working with the product is recommended safety training of employees in connection with the occurrence of workplace chemicals. Documentation should be prepared and employees should be familiarized with the results of risk assessment in the workplace associated with the presence of chemical agents.

Key literature:
Annex to Regulation (EU) 2015/830.
Current legislation (Section 15).
Information Agency for Chemical Substances.

The information in this MSDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. The information in this MSDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.

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