Safety Data Sheet for AHARIBO PROTEIN SYSTEM v2.0

Immagina Biotechnology S.r.l.

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Immagina **AHARIBO PROTEIN SYSTEM v2.0** consist of tubes and bottles containing aqueous solutions, magnetic beads, chemicals and detergents. Components list:

- o Washing Solution (WSS)
- o bBeads (bB)
- o Guanidinium Washing Solution (GWS)
- o L-Azidohomoalanine (AHA)
- o Lysis buffer (LB)
- o L-Leucine (LL)
- o sBlock

A Safety Data Sheet is provided for Triton X-100, DMSO, L-Leucine, L-Azidohomoalanine, sBlock, Guanidine hydrochloride, and bBeads.

AHARIBO PROTEIN SYSTEM v2.0 (#AHA-PM12.2) doesn't contain any animal or biological material.

IMMAGINA BIOTECHNOLOGY srl recommends all normal precautions. We recommend always wearing gloves and avoiding direct contact with skin and eyes when handling biochemical and chemical reagents and solutions. Information in this MSDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and IMMAGINA BOTECHNOLOGY srl assumes no liability resulting from the use of this MSDS. The user must determine suitability of this information for his application.

1.1 Product identifiers

Product name: bBeads (bB) Product Number: #IBT0045

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

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company:Immagina Biotechnology S.r.l.Vialedell'Industria47,38057PergineValsugana(TN)ItalyTel: +39 0461 1787270, info@immaginabiotech.com

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Not a hazardous substance or mixture.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms: magnetic beads

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapours, mist or gas. For personal protection see section 8.

6.2 Environmental precautions

No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature 2 - 8 °C

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Body Protection

Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

No special environmental precautions required.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance Form:	Aqueous solution
b) Odour:	No data available
c) Odour Threshold:	No data available
d) pH:	No data available
e) Melting point/freezing point:	No data available
f) Initial boiling point and boiling range:	No data available
g) Flash point:	No data available
h) Evaporation rate:	No data available
i) Flammability (solid, gas):	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
I) Vapour density	No data available
m) Relative density	No data available
n) Water solubility	No data available
 o) Partition coefficient: n-octanol/water 	No data available
p) Auto-ignition temperature	No data available
 q) Decomposition temperature 	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity No data available Skin corrosion/irritation No data available Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation

No data available Germ cell mutagenicity No data available Carcinogenicity IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. **Reproductive toxicity** No data available Specific target organ toxicity - single exposure No data available Specific target organ toxicity - repeated exposure No data available Aspiration hazard No data available **Additional Information RTECS:** Not available

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number ADR/RID: -	IMDG: -	IATA: -	
14.2 UN proper shipping name ADR/RID: Not dangerous goods	IMDG: Not dangerous goods	IATA: Not dangerou	sı
14.3 Transport hazard class(es ADR/RID: -	5) IMDG: -	IATA: -	
14.4 Packaging group ADR/RID: -	IMDG: -	IATA: -	
14.5 Environmental hazards ADR/RID: no	IMDG Marine pollutant: no	IATA: no	
14.6 Special precautions for us	ser		

No data available

SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information Further information

SECTION 1: Identification of the substance/mixture and of the company/undertaking **1.1** Product identifiers

Product name: sBlock Product Number: # IBT0451

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

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheetImmagina Biotechnology S.r.l.Vialedell'Industria47,38057PergineValsuganaTel: +39 0461 1787270, info@immaginabiotech.com

SECTION 2: Hazards identification



Hazard statements

H301 Toxic if swallowed

Precautionary statements

P264 P270 P301 + P310 P321	Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Specific treatment
P321	Specific treatment
P330	Rinse mouth.

SECTION 3: Composition/information on ingredients

3.1 Substances

No data available

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx)

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature 2 - 8 °C

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties
- a) Appearance Form:
- b) Odour
- c) Odour Threshold
- d) pH
- e) Melting point/freezing point
- f) Initial boiling point and boiling range

solid Colour: white No data available No data available No data available No data available No data available

No data available g) Flash point h) Evaporation rate No data available i) Flammability (solid, gas) No data available j) Upper/lower flammability or explosive limits No data available k) Vapour pressure No data available I) Vapour density No data available m) Relative density No data available n) Water solubility No data available o) Partition coefficient: n-octanol/water No data available p) Auto-ignition temperature No data available q) Decomposition temperature No data available r) Viscosity No data available s) Explosive properties No data available t) Oxidizing properties No data available

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects Acute toxicity No data available

Skin corrosion/irritation No data available

No data avallable

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

Germ cell mutagenicity No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard

No data available

Additional Information

No data available

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 Special precautions for user

No data available

SECTION 15: Regulatory information

15.1 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

This MSDS contains information about DMSO and applies to IMMAGINA BIOTECHNOLOGY component sBlock (#IBT0451)

SECTION 1: Identification of the substance/mixture and of the company/undertaking **1.1 Product identifiers**

Product name: **Dimethyl Sulfoxide** 67-68-5 CAS-No.:

1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet Immagina Biotechnology S.r.l.

Viale	dell'Industria	47,	38057	Pergine	Valsugana	(TN)	Italy
Tel: +39	0461 1787270,	info@im	maginabiote	ch.com			

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Rapidly absorbed through skin.

SECTION 3: Composition/information on ingredients

3.1 Substances Synonyms: DMSO C2H6OS Formula: 78.13 g/mol Molecular weight: CAS-No.: 67-68-5 EC-No.: 200-664-3 No components need to be disclosed according to the applicable regulations.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed No data available

SECTION 5: Firefighting measures 5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Sulphur oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature 2 - 8 °C Hygroscopic.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection 8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves.

Body Protection

Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties a) Appearance Form: liquid, clear

	ronni ngulu, cicui
	Colour: colourless
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	18.4 °C

f) Initial boiling point and boiling range	189 °C at 1,013 hPa
g) Flash point	87 °C - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 42 %(V)
	Lower explosion limit: $3.5 \%(V)$
k) Vapour pressure	0.55 hPa at 20 °C
I) Vapour density	2.70 - (Air = 1.0)
m) Relative density	1.1 g/cm3
n) Water solubility	completely miscible
o) Partition coefficient:	n-octanol/water log Pow: -2.03
p) Auto-ignition temperature	No data available
 q) Decomposition temperature 	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available
9.2 Other safety information	
Relative vapour density	2.70 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents, Strong reducing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Acute toxicity

LD50 Oral - Rat - male and female - 28,300 mg/kg (OECD Test Guideline 401) LC0 Inhalation - Rat - male and female - 4 h - > 5.33 mg/l (OECD Test Guideline 403) LD50 Dermal - Rat - male and female - 40,000 mg/kg Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit Result: slight irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit Result: slight irritation - 24 h (OECD Test Guideline 405)

Respiratory or skin sensitisation

Maximisation Test - Guinea pig Result: negative (OECD Test Guideline 406) Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 429)

Germ cell mutagenicity

Ames test Salmonella typhimurium Result: negative sister chromatid exchange assay Chinese hamster ovary cells Result: negative Mutagenicity (mammal cell test): chromosome aberration. Chinese hamster ovary cells Result: negative OECD Test Guideline 474 Rat - male and female Result: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard

No data available

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 18 Months - No observed adverse effect level - 3,300 mg/kg - Lowest observed adverse effect level - 9,900 mg/kg Repeated dose toxicity - Monkey - male and female - Dermal - 18 Months - No observed adverse effect level - >= 8,910 mg/kg - Lowest observed adverse effect level - 990 mg/kg RTECS: PV6210000 Exposure to large amounts can cause: redness of skin, Itching, burning, sedation, Headache, Nausea, Dizziness

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish static test LC50 - Danio rerio (zebra fish) - > 25,000 mg/l - 96 h (OECD Test Guideline 203) Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - 24,600 mg/l - 48 h (OECD Test Guideline 202) Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata (green algae) -17,000 mg/l - 72 h (OECD Test Guideline 201) Toxicity to bacteria EC50 - activated sludge - 10 - 100 mg/l - 30 min (ISO 8192)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d Result: 31 % - Not readily biodegradable. (OECD Test Guideline 301D)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available Stability in water - 0.12 - 1.2 h at 30 °C Remarks: Hydrolyses readily.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport informa 14.1 UN number	ation			
ADR/RID: -	IMDG: -	IATA: -		
14.2 UN proper shipping name				
ADR/RID: Not dangerous goods goods	IMDG: Not dangerous goods	IATA:	Not	dangerous
14.3 Transport hazard class(es				
ADR/RID: -	IMDG: -	IATA: -		

IMDG: -	IATA: -
IMDG Marine pollutant: no	IATA: no
ser	
	IMDG: - IMDG Marine pollutant: no ser

SECTION 15: Regulatory information 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. **15.2 Chemical safety assessment**

SECTION 16: Other information

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

1.1 Product identifiers

Product name: L-Azidohomoalanine (AHA) Product Number: # IBT0431

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

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Immagina Biotechnology S.r.l.

Viale dell'Industria 47, 38057 Pergine Valsugana (TN) Italy Tel: **+39 0461 1787270**, info@immaginabiotech.com

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms:AHAFormula:C4H8N4O2Molecular weight:144,13 g/molNo components need to be disclosed according to the applicable regulations.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled If breathed in, move person into fresh air. If not breathing, give artificial respiration. In case of skin contact Wash off with soap and plenty of water. In case of eye contact Flush eyes with water as a precaution. If swallowed Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx)

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapours, mist or gas. For personal protection see section 8.

6.2 Environmental precautions

No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Store in cool place. Recommended storage temperature -20 °C Handle and store under inert gas. Moisture sensitive.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

No special environmental precautions required.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

 a) Appearance b) Odour c) Odour Threshold d) pH e) Melting point/freezing point f) Initial boiling point and boiling range g) Flash point h) Evaporation rate i) Flammability (solid, gas) j) Upper/lower flammability or explosive limits k) Vapour pressure l) Vapour density m) Relative density n) Water solubility o) Partition coefficient: n-octanol/water p) Auto-ignition temperature g) Decomposition temperature 	Form: powder, crystals No data available No data available No data available 139 °C No data available No data available
 o) Partition coefficient: n-octanol/water p) Auto-ignition temperature q) Decomposition temperature r) Viscosity s) Explosive properties t) Oxidizing properties 	No data available No data available No data available No data available No data available No data available

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - No data available Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx) In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Acute toxicity No data available Skin corrosion/irritation No data available Serious eye damage/eye irritation No data available **Respiratory or skin sensitisation** No data available Germ cell mutagenicity No data available Carcinogenicity IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. **Reproductive toxicity** No data available Specific target organ toxicity - single exposure No data available Specific target organ toxicity - repeated exposure No data available Aspiration hazard No data available Additional Information **RTECS:** Not available To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

No data available **12.2 Persistence and degradability** No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Offer surplus and non-recyclable solutions to a licensed disposal company. **Contaminated packaging** Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number ADR/RID: -	IMDG: -	IATA: -		
14.2 UN proper shipping name ADR/RID: Not dangerous goods goods	IMDG: Not dangerous goods	IATA:	Not	dangerous
14.3 Transport hazard class(es ADR/RID: -) IMDG: -	IATA: -		
14.4 Packaging group ADR/RID: -	IMDG: -	IATA: -		
14.5 Environmental hazards ADR/RID: no	IMDG Marine pollutant: no	IATA: no	C	
14.6 Special precautions for us No data available	er			

SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment For this product a chemical safety assessment was not carried out

SECTION 16: Other information

This MSDS contains information about Triton[™] X-100 and applies to IMMAGINA BIOTECHNOLOGY component Washing Solution (WSS) (# IBT0461), and Lysis Buffer (LB) (#IBT0034)

SECTION 1: Identification of the substance/mixture and of the company/undertaking **1.1** Product identifiers

Product name: Triton[™] X-100 CAS-No.: 9002-93-1

1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses: Scientific research and development

1.3 Details of the supplier of the safety data sheet

Immagin	a Biotechnolog	y S.r.I.					
Viale	dell'Industria	47,	38057	Pergine	Valsugana	(TN)	Italy
Tel: +39 (0461 1787270 ,	, info@im	maginabiote	ch.com			

SECTION 2: Hazards identification 2.1 Classification of the substance or mixture

Acute toxicity, Oral (Category 4), H302 Skin irritation (Category 2), H315 Serious eye damage (Category 1), H318 Short-term (acute) aquatic hazard (Category 1), H400 Long-term (chronic) aquatic hazard (Category 1), H410 For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Pictogram



Signal Word

Danger

Hazard statements

H302	Harmful if swallowed
N30Z	nammu ii swanoweu.

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.

Precautionary statements

- P264 Wash skin thoroughly after handling.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ eye protection/ face protection.

P301 + P312	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lens	es, if present and easy to do. Continue rinsing.



Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements none

Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula:	(C2H4O)nC14H22O
CAS-No.:	9002-93-1

Component		Classification	Concentration
Triton-X-100 Included in the Candidate List of Substances of Very High Concern (SVHC			gh Concern (SVHC)
according to Regulat	tion (EC) No. 19	907/2006 (REACH)	
CAS-No.	9002-93-1	Acute Tox. 4; Skin Irrit. 2; Eye Dam.	<= 100 %
1; Aquatic Acute 1; Aquatic Chronic			
		1; H302, H315, H318, H400, H410	
		M-Factor - Aquatic Acute: 10 -	
		Aquatic Chronic: 1	

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

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Water Foam Carbon dioxide (CO2) Dry powder Unsuitable extinguishing media For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® OH⁻, Merck Art. No. 101596). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions Tightly closed. Recommended storage temperature see product label.

Storage class

Storage class (TRGS 510): 10: Combustible liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles. **Skin protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell).

Full contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell).

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Body Protection

protective clothing

Respiratory protection

required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type ABEK The entrepeneur 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.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance b) Odour c) Odour Threshold Hq (b 9,7 6°C e) Melting point/freezing point f) Initial boiling point and boiling range g) Flash point h) Evaporation rate i) Flammability (solid, gas) j) Upper/lower flammability or explosive limits k) Vapour pressure I) Vapour density m) Relative density n) Water solubility o) Partition coefficient: p) Auto-ignition temperature q) Decomposition temperature r) Viscosity s) Explosive properties t) Oxidizing properties none

Form: liquid, clear Colour: colourless characteristic No data available > 200 °C at 1,013 hPa 251 °C - closed cup No data available No data available No data available < 1,33 hPa at 20 °C No data available 1,0700 g/cm3 at 20 °C soluble No data available No data available No data available No data available No data available

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Violent reactions possible with: Strong oxidizing agents Strong acids

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Strong acids, Strong bases, Strong oxidizing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Acute toxicity LD50 Oral - Rat - 1,900 - 5,000 mg/kg Remarks: (External MSDS) The value is given in analogy to the following substances: Octylphenol polyethoxyethanol Inhalation: No data available LD50 Dermal - Rabbit - > 3,000 mg/kg Remarks: (External MSDS) The value is given in analogy to the following substances: Octylphenol polyethoxyethanol Skin corrosion/irritation Skin - Rabbit Result: irritating - 4 h (OECD Test Guideline 404) Remarks: The value is given in analogy to the following substances: 4-(1,1,3,3tetramethylbutyl)phenol Serious eye damage/eye irritation Eyes - Rabbit Result: Risk of serious damage to eyes. (Draize Test) Remarks: Risk of corneal clouding. **Respiratory or skin sensitisation** Sensitisation test: - Human Result: negative Remarks: (External MSDS) The value is given in analogy to the following substances: Octylphenol polyethoxyethanol Germ cell mutagenicity Test Type: Mutagenicity (mammal cell test): Test system: Mouse lymphoma test **Result:** negative Remarks: (Lit.) Carcinogenicity No data available **Reproductive toxicity** No data available Specific target organ toxicity - single exposure No data available Specific target organ toxicity - repeated exposure No data available Aspiration hazard No data available

11.2 Additional Information Endocrine disrupting properties <u>**Product:**</u>

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU)

2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity	
Toxicity to fish	semi-static test LC50 - Leuciscus idus (Golden orfe) - 0.26 mg/l - 96 h (OECD Test Guideline 203)
	Remarks: The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol
Toxicity to daphnia	static test EC50 - Daphnia magna (Water flea) - 0.011 mg/l - 48
invertebrates	The value is given in analogy to the following substances: 4- (1,1,3,3- tetramethylbutyl)phenol
Toxicity to algae	static test EC50 - Pseudokirchneriella subcapitata (green algae) - 1.9 mg/l - 96 h Remarks: (ECHA)
	The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol
Toxicity to bacteria	static test EC10 - Pseudomonas putida - ca. 7.125 mg/l - 18 h (DIN 38412)
Toxicity to fish (Chronic toxicity)	flow-through test - Danio rerio (zebra fish) - 0.012 mg/l (OECD Test Guideline 210)
	Remarks: The value is given in analogy to the following substances: 4-(1.1.3.3-tetramethylbutyl)phenol
Toxicity to daphnia and other aquatic	semi-static test NOEC - Daphnia magna (Water flea) - 0.03 mg/l - 21 d (OECD Test Guideline 202)
invertebrates (Chronic toxicity)	Remarks: The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol

12.2 Persistence and degradability

Biodegradability	aerobic - Exposure time 28 d
	(OECD Test Guideline 301C)
	Remarks: The value is given in analogy to the following substances:
	Octylphenol polyethoxyethanol
Chemical Oxygen	2.19 mg/g
Demand (COD)	

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment: This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Components:

Triton-X-100:

Assessment: The substance is considered to have endocrine disrupting properties according to REACH Article 57(f) for the environment.

12.7 Other adverse effects

Causes endocrine disruption. Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods Product

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

SECTION 14: Transport information

14.1 UN number		
ADR/RID: 3082	IMDG: 3082	IATA: 3082
14.2 UN proper shipping name		
ADR/RID: ENVIRONMENTALLY Octylphenoxy polyethyl alcohol)	HAZARDOUS SUBSTANCE, LI	QUID, N.O.S. (p-tertiary-
IMDG: ENVIRONMENTALLY HAZAF polyethyl alcohol)	DOUS SUBSTANCE, LIQUID, N.C	S. (p-tertiary- Octylphenoxy
IATA: Environmentally hazardous alcohol)	substance, liquid, n.o.s. (p-ter	tiary-Octylphenoxy polyethy
14.3 Transport hazard class(es	5)	
ADR/RID: 9	IMDG: 9	IATA: 9
14.4 Packaging group ADR/RID: III	IMDG: III	IATA: III
14.5 Environmental hazards ADR/RID: yes	IMDG Marine pollutant: yes	IATA: yes

14.6 Special precautions for user

Tunnel restriction code : (-) Further information Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).: Triton-X-100

This product contains a substance listed on Annex XIV of the REACH Regulation (EC) Nr. 1907/2006.

Listed substance / Sunset Date : Triton-X-100 / 04.01.2021

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. E1 ENVIRONMENTAL HAZARDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work.

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 sections 2 and 3.

- 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.

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

1.1 Product identifiers

Product name: L-Leucine Product Number: # IBT0441 CAS-No.: 61-90-5

1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Immagina Biotechnology S.r.I.Vialedell'Industria47,38057PergineValsugana(TN)ItalyTel: +39 0461 1787270, info@immaginabiotech.com

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula: (CH3)2CHCH2CH(NH2)CO2H Molecular weight: 131.17 g/mol

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled If breathed in, move person into fresh air. If not breathing, give artificial respiration. In case of skin contact Wash off with soap and plenty of water. In case of eye contact Flush eyes with water as a precaution. If swallowed Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx) **5.3 Advice for firefighters** Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapours, mist or gas. For personal protection see section 8.

6.2 Environmental precautions

No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Store in cool place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves.

Body Protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). **Control of environmental exposure**

No special environmental precautions required.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: crystalline Colour: white
b) Odour	weak
c) Odour Threshold	No data available
d) pH	5.5 - 6.5 at 20 g/l at 20 °C
e) Melting point/freezing point	300 °C
f) Initial boiling point and boiling range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	The product is not flammable.
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
I) Vapour density	4.52
m) Relative density	1.293 g/cm3 at 18 °C
n) Water solubility	23 g/l at 25 °C - completely miscible
o) Partition coefficient:	n-octanol/water log Pow: -1.52 - (Lit.),
	Bioaccumulation is not expected.
p) Auto-ignition temperature	does not ignite
 q) Decomposition temperature 	ca.296 °C -
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

Surface tension ca.68.6 mN/m at ca.16.4g/l at 25 °C Dissociation constant 2.36 at 25 °C Relative vapour density 4.52

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx) Other decomposition products - No data available In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Acute toxicity LD0 Oral - Rat - male and female - > 2,000 mg/kg Skin corrosion/irritation Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404) Remarks: (in analogy to similar products) Serious eye damage/eye irritation Eyes - Rabbit Result: No eye irritation (OECD Test Guideline 405) Remarks: (in analogy to similar products) **Respiratory or skin sensitisation** Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 429) Remarks: (in analogy to similar products) Germ cell mutagenicity No data available Ames test Salmonella typhimurium Result: negative Carcinogenicity IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. **Reproductive toxicity** No data available Specific target organ toxicity - single exposure No data available Specific target organ toxicity - repeated exposure No data available Aspiration hazard No data available **Additional Information** Repeated dose toxicity - Rat - male and female - Oral - 90 d - No observed adverse effect level - 3,330 - 3,840 mg/kg Subchronic toxicity **RTECS:** Not available

The levorotary (I) forms of leucine, isoleucine, and valine have been found to have tumorpromotingNactivity for bladder carcinomas., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish semi-static test LC50 - Danio rerio (zebra fish) - > 10,000 mg/l - 96h (OECD Test Guideline 203) Remarks: (in analogy to similar products) Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - > 10,000 mg/l - 24h (OECD Test Guideline 202) Remarks: (in analogy to similar products) Toxicity to bacteria static test EC10 - Pseudomonas putida - > 9,900 mg/l - 16 h (DIN 38421 TEIL 8) Remarks: (in analogy to similar products)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d Result: 83 % - Readily biodegradable. (OECD Test Guideline 301F) Remarks: (in analogy to similar compounds)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Offer surplus and non-recyclable solutions to a licensed disposal company. **Contaminated packaging** Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

goods

ADR/RID: - IMDG: - IATA: - **14.2 UN proper shipping name** ADR/RID: Not dangerous goods IMDG: Not dangerous goods IATA: Not dangerous

14.3 Transport hazard class(ADR/RID: -	es) IMDG: -	IATA: -
14.4 Packaging group ADR/RID: -	IMDG: -	IATA: -
14.5 Environmental hazards ADR/RID: no	IMDG Marine pollutant: no	IATA: no
14.6 Special precautions for u No data available	Iser	

SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information Further information This MSDS contains information about Guanidine hydrochloride and applies to IMMAGINA BIOTECHNOLOGY component Guanidinium Washing Solution (GWS) (# IBT0482).

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

1.1 Product identifiers

Product name: Guanidine hydrochloride CAS-No.: 50-01-1

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

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet Immagina Biotechnology S.r.l.							
Viale	dell'Industria	47,	38057	Pergine	Valsugana	(TN)	Italy
Tel: +39	0461 1787270 , i	nfo@imn	naginabiotec	h.com	_		-

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Acute toxicity, (Category 4) H302: Harmful if swallowed. Acute toxicity, (Category 4) H332: Harmful if inhaled. Skin irritation, (Category 2) H315: Causes skin irritation. Eye irritation, (Category 2) H319: Causes serious eye irritation.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



unwell.

Signal Word	Warning
Hazard Statements	
H302 + H332	Harmful if swallowed or if inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
Precautionary Statements	
P261	Avoid breathing dust.
P264	Wash skin thoroughly after handling.
P301 + P312	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel

P302 + P352 P304 + P340 + P312

P305 + P351 + P338

Supplemental Hazard Statements

Reduced Labeling (<= 125 ml)

Pictogram



Signal Word Warning Hazard Statements none Precautionary Statements none Supplemental Hazard none Statements

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Molecular weight:

Synonyms:

Formula:

CAS-No.:

Index-No.:

EC-No.:

Aminoformamidine hydrochloride Aminomethanamidine hydrochloride CH5N3 · HCl 95,53 g/mol 50-01-1 200-002-3 607-148-00-0

Component		Classification	Concentration
Guanidinium chloride			
CAS-No.	50-01-1	Acute Tox. 4; Skin Irrit. 2;	<= 100 %
EC-No.	200-002-3	Eye Irrit. 2; H302, H332,	
Index-No.	607-148-00-0	H315, H319	

IF ON SKIN: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. none 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

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Carbon oxides Nitrogen oxides (NOx) Hydrogen chloride gas Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry. hygroscopic

Storage class

Storage class (TRGS 510): 11: Combustible Solids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell). Full contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested: KCL 741 Dermatril® L This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell). Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested: KCL 741 Dermatril® L

Body Protection

protective clothing

Respiratory protection

required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P2 The entrepeneur 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.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state	crystalline
b) Color	white
c) Odor	odorless
 d) Melting point/freezing point 	Melting point/range: 180 - 185 °C - lit.
e) Initial boiling point and boiling range	Not applicable
f) Flammability (solid, gas)	No data available
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	Not applicable
i) Autoignition temperature	No data available
j) Decomposition temperature	> 310 °C
k) pH	4,5 - 6 at 573 g/l at 25 °C
I) Viscosity	Viscosity, kinematic: No data available
	Viscosity, dynamic: Not applicable
m) Water solubility	2.150 g/l at 20 °C - completely soluble
n) Partition coefficient:	n-octanol/water log Pow: < -1,7 at 20 °C -
	Bioaccumulation is not expected.
o) Vapor pressure	No data available
p) Density	1,345 g/cm3 at 20 °C
Relative density	No data available
q) Relative vapor density	No data available

r) Particle characteristics s) Explosive properties

t) Oxidizing properties

No data available No data available none

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity LD50 Oral - Rat - female - 773,6 mg/kg (OECD Test Guideline 401) LC50 Inhalation - Rat - female - 4 h - 3,181 mg/l - dust/mist (OECD Test Guideline 403) LD50 Dermal - Rabbit - male and female - > 2.000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit Result: Skin irritation - 24 h (US-EPA) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation

Eyes - Rabbit Result: Causes serious eye irritation. (OECD Test Guideline 405) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitisation

Buehler Test - Guinea pig Result: negative (OECD Test Guideline 406)

Germ cell mutagenicity

Not mutagenic in Ames Test. Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: Chromosome aberration test in vitro Test system: Chinese hamster fibroblasts Metabolic activation: without metabolic activation Method: OECD Test Guideline 473 Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard

No data available

11.2 Additional Information Endocrine disrupting properties

Product:

Assessment :

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rat - male and female - Oral - 90 Days - NOAEL (No observed adverse effect level) - 100 mg/kg

RTECS: MF4300000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:

The following applies to parasympathomimetic agents in general: after oral uptake and depending on the dose, these physiologically highly active substances cause salivation, rhinorrhoea, and in some cases also lacrimation, perspiration, contraction of the pupils, dizziness, vomiting, colics, diarrhoea. Risk of collapse and cardiac arrest. Inhalation of dusts and aerosols leads to the above symptoms. Respiration is accelerated at first, then slows down.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity	
Toxicity to daphnia and	static test EC50 - Daphnia magna (Water flea) - 70,2 mg/l - 48 h
other aquatic	(OECD Test Guideline 202) Remarks: (in analogy to similar
invertebrates	products) The value is given in analogy to the following
	substances: Guanidinium nitrate
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 33,5 mg/l - 72 h (Regulation (EC) No. 440/2008, Annex, C.3) Remarks: (in analogy to similar products) The value is given in
	analogy to the following substances: Guanidinium nitrate
Toxicity to bacteria	static test EC10 - Pseudomonas putida - ca. 7.125 mg/l - 18 h (DIN 38412)
Toxicity to fish (Chronic toxicity)	flow-through test NOEC - Pimephales promelas (fathead minnow) - >= 181 mg/l - 35 d (OECD Test Guideline 210) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Guanidinium nitrate
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	flow-through test NOEC - Daphnia magna (Water flea) - 2,9 mg/l - 21 d (OECD Test Guideline 211) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Guanidinium nitrate

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment :

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN nu	mber	
ADR/RID: -	IMDG: -	IATA: -
14.2 UN pro ADR/RID: IMDG: IATA:	pper shipping name Not dangerous goods Not dangerous goods Not dangerous goods	
14.3 Transp	ort hazard class(es)	
ADR/RID: -	IMDG: -	IATA: -
14.4 Packag	ging group	
ADR/RID: -	IMDG: -	IATA: -
14.5 Enviro ADR/RID: no	nmental hazards IMDG Marine pollutant: no	IATA: no
14.6 Specia No data avail Further info	l precautions for user lable prmation	

Not classified as dangerous in the meaning of transport regulations.

SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work.

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

- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List

(Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH -Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative