

SDS attached

SDS attached

Kit SDS Cover Sheet DPSC BulletKit (PT-3927&PT-4516)

GA-1000

Ascorbic Acid Solution

Version 3.0	Revisior	n Date 16.12.2021	Print Date 02.01.2025
Product Informatio	n		
Product name	: DPSC BulletKit (PT-3927&PT-	4516)	
Material number	: PT-3005		
Components			
DPSCBM Basal M	ledium	SDS atta	ched
PT-4516 Human Dental Pulp Stem Cell SingleQuots™ Supplements and Growth Factors			
	Fetal Bovine Serum	SDS attac	ched
	L-GLUTAMINE	SDS attac	ched



DPSCBM Basal Medium

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
SECTION 1: Identification of the s	ubstance/mixture and of the company/	undertaking
1.1 Product identifier		
Product name	: DPSCBM Basal Medium	
1.2 Relevant identified uses of the su	bstance or mixture and uses advised agair	nst
Use of the Substance/Mixture	: Scientific research and development	
1.3 Details of the supplier of the safe	y data sheet	
Company	: Lonza Ltd Muenchensteinerstrasse 38 CH-4002 Basel, Switzerland Business Telephone: +41 61 316 81 17	1
	Lonza Verviers Sprl Parc Industriel de Petit-Rechain BE-4800 Verviers, Belgium Business Telephone: +32 8732 1611	
	Lonza Cologne GmbH Nattermannallee 1 DE-50829 Köln, Germany Business Telephone: + 49 221 99 1990	0
	Lonza Copenhagen ApS Strandhaven 12 DK-2665 Vallensbaek Strand, Denmar Business Telephone: + 45 4356 7400	k
E-mail address Responsible/issuing person	sds@lonza.com	
1.4 Emergency telephone number		
Emergency telephone number	: Lonza Ltd, CH-4002 Basel, Switzerland Telephone: +41 61 313 94 94 (24h)	d

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

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

Ref. / 00000027360



DPSCBM Basal Medium

|--|

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

3.2 Mixtures

Components

Remarks

: No hazardous ingredients

SECTION 4: First aid measures

4.1 Description of first aid measures		
If inhaled :	No special precautions required.	
In case of skin contact :	Wash with water and soap as a precaution. If skin irritation persists, call a physician.	
In case of eye contact :	Immediately flush eye(s) with plenty of water. If eye irritation persists, consult a specialist.	
If swallowed :	Immediately give large quantities of water to drink. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.	
4.2 Most important symptoms and effects, both acute and delayed		
Symptoms :	No information available.	

4.3 Indication of any immediate medical attention and special treatment needed

Treatment

: No information available.



according to Regulation (EC) No. 1907/2006

DPSCBM Basal Medium

pray //der mixture ardous combustion products are known vent of fire, wear self-contained breathing apparatus. ter spray to cool unopened containers. d emergency procedures sonal protective equipment. product from entering drains.
mixture ardous combustion products are known vent of fire, wear self-contained breathing apparatus. ter spray to cool unopened containers. demergency procedures sonal protective equipment.
mixture ardous combustion products are known vent of fire, wear self-contained breathing apparatus. ter spray to cool unopened containers. demergency procedures sonal protective equipment.
ardous combustion products are known vent of fire, wear self-contained breathing apparatus. ter spray to cool unopened containers. d emergency procedures sonal protective equipment.
vent of fire, wear self-contained breathing apparatus. ter spray to cool unopened containers. d emergency procedures sonal protective equipment.
ter spray to cool unopened containers. d emergency procedures sonal protective equipment.
ter spray to cool unopened containers. d emergency procedures sonal protective equipment.
d emergency procedures sonal protective equipment.
sonal protective equipment.
sonal protective equipment.
product from entering drains.
product from entering drains.
ning up
spillage, and then collect with non-combustible ent material, (e.g. sand, earth, diatomaceous earth, lite) and place in container for disposal according to ational regulations (see section 13).
cial precautions required.
ecautionary measures against static discharges.



according to Regulation (EC) No. 1907/2006

DPSCBM Basal Medium

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.202
	practice.	
7.2 Conditions for safe storage, includ	ng any incompatibilities	
Requirements for storage areas and containers	: No special storage conditions	required.
7.3 Specific end use(s)		
Specific use(s)	: No information available.	
SECTION 8: Exposure controls/pe	sonal protection	
8.1 Control parameters		
Occupational Exposure Limits		
Contains no substances with or	cupational exposure limit values.	
8.2 Exposure controls		
Engineering measures		
Avoid splashes.		
Personal protective equipment		
Eye protection	: Tightly fitting safety goggles	
Hand protection		
Material	: Nitrile rubber	
Rate of permeability	: > 480 min	
Skin and body protection	: Choose body protection accord concentration of the dangerous No special protective equipme	s substance at the work place.
Respiratory protection	: No personal respiratory protec required.	tive equipment normally

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Appearance	:	Aqueous solution
Colour	:	red



according to Regulation (EC) No. 1907/2006

DPSCBM Basal Medium

no data available no data available	
no data available no data available no data available no data available no data available no data available	
no data available no data available no data available no data available no data available	
no data available no data available no data available no data available	
no data available no data available no data available	
no data available no data available	
no data available	
no data available	
6,9 - 7,3	
no data available	
	no data available no data available no data available no data available

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.



according to Regulation (EC) No. 1907/2006

DPSCBM Basal Medium

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
10.2 Chemical stability		
Stable under normal conditions.		
10.3 Possibility of hazardous reactions		
Hazardous reactions	: Stable under normal conditions.	
10.4 Conditions to avoid		
Conditions to avoid	: no data available	
10.5 Incompatible materials		
Materials to avoid	: Strong oxidizing agents	
10.6 Hazardous decomposition products No decomposition if stored normally.	5	

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity	
Acute oral toxicity	: Remarks: no data available
Acute inhalation toxicity	: Remarks: no data available
Acute dermal toxicity	: Remarks: no data available
Skin corrosion/irritation	
	Remarks: no data available
Serious eye damage/eye irritation	Remarks: no data available
Respiratory or skin sensitisation	Remarks: no data available
Germ cell mutagenicity	
Genotoxicity in vitro	: Remarks: no data available
Carcinogenicity	
	Remarks: no data available
Reproductive toxicity	
Effects on fertility	: Remarks: no data available
Ref. / 00000027360	SDK_EU / EN



according to Regulation (EC) No. 1907/2006

DPSCBM Basal Medium

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.20
STOT - single exposure	Remarks: no data available	
	Remarks. no data available	
STOT - repeated exposure		
	Remarks: no data available	
11.2 Information on other hazards		
Endocrine disrupting properties		
Assessment	: The substance/mixture does not considered to have endocrine dis to REACH Article 57(f) or Comm (EU) 2017/2100 or Commission levels of 0.1% or higher.	srupting properties according ission Delegated regulation
Further information		
	Remarks: No data is available or	n the product itself.
Toxicity to fish	: Remarks: no data available	
-		
12.2 Persistence and degradability		
Biodegradability	: Result: no data available	
12.3 Bioaccumulative potential		
Bioaccumulation	: Remarks: no data available	
12.4 Mobility in soil		
Distribution among environmental compartments	: Remarks: no data available	
12.5 Results of PBT and vPvB assessr	nent	
Assessment	: This substance/mixture contains be either persistent, bioaccumula persistent and very bioaccumulat higher.	ative and toxic (PBT), or very
12.6 Endocrine disrupting properties		
Endocrine disrupting potential	: The substance/mixture does not considered to have endocrine dis	
Ref. / 00000027360	SDK_EU / EN	Page 8



according to Regulation (EC) No. 1907/2006

DPSCBM Basal Medium

51.00	Divi Dasal weululli		
Version 3.0		Revision Date 16.12.2021	Print Date 02.01.202
		to REACH Article 57(f) or Commis (EU) 2017/2100 or Commission R levels of 0.1% or higher.	
12.7 Of	ther adverse effects		
Er	ndocrine disrupting potential	: The substance/mixture does not c considered to have endocrine disr to REACH Article 57(f) or Commis (EU) 2017/2100 or Commission R levels of 0.1% or higher.	upting properties according sion Delegated regulation
Additional ecological information		: no data available	
SECTI	ON 13: Disposal consideration	ns	
	aste treatment methods oduct	: Dispose of in accordance with loca	al regulations.
SECTI	ON 14: Transport information	I	
ΙΑΤΑ		Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	
IMDG	CODE	Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable Not applicable Marine pollutant: no 	
ADR		: Not dangerous goods	
14.1 14.2 14.3 14.4 14 5	UN number Proper shipping name Transport hazard class Packing group Environmental bazards	 Not applicable Not applicable Not applicable Not applicable no 	

Environmental hazards

14.4 14.5

: no



DPSCBM Basal Medium

Version 3.0		Revision Date 16.12.2021	Print Date 02.01.2025
RID		: Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	
DOT		: Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	
TDG		: Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	:	Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
REACH - List of substances subject to authorisation (Annex		Not applicable



according to Regulation (EC) No. 1907/2006

DPSCBM Basal Medium

Version 3.0	Revision Date 16.12.2021	F	Print Date 02.01.2025
XIV)			
Regulation (EC) No 1005/2009 on subsociation of the second	stances that deplete the	Not applicable	
Regulation (EU) 2019/1021 on persiste (recast)	ent organic pollutants	Not applicable	
Seveso III: Directive 2012/18/EU of the major-accident hazards involving dang	•	of the Council on the o	control of
National regulatory information			
Water hazard class (Germany)	: WGK 1 slightly hazardo Remarks: Classification		nnex 1 (5.2)
15.2 Chemical safety assessment			
not required			

SECTION 16: Other information

Full text of other abbreviations

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ATE -Acute Toxicity Estimate; AwSV - Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen / Ordinance on facilities for handling substances that are hazardous to water; BPR - Biocidal Product Regulation; bw - Body weight; CAS - Chemical Abstract Service; CLP - Classification Labelling Packaging Regulation, Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DNEL-Derived No Effect Level; DOT - Department of Transportation; EC – European Community; ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; EmS (Emergency Response Procedures for Ships Carrying Dangerous Goods); EN - European Standard; ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; EU OEL - European Occupational Exposure Limit; GHS -Globally Harmonized System of Classification and Labelling of Chemicals; GLP - Good Laboratory Practice; GV – Danish Exposure Limits for Substances and Materials; 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: IMDG - International Maritime Dangerous Goods; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); LOFT - Danish Threshold Limit Value; MAK - German Threshold Limit Value; MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NIOSH/Guide - National Institute of Safety and Health Guidebook; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NTP -National Toxicology Program; OECD - Organization for Economic Co-operation and Development; PBT -Persistent, Bioaccumulative and Toxic substance; PEL - Permissible Exposure Limit; PNEC - Predicted no Effect Concentration; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; REL -



DPSCBM Basal Medium

Version 3.0

Revision Date 16.12.2021

Print Date 02.01.2025

Recommended Exposure Limit; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; STEL - Short-Term Exposure Limit; TDG - Transportation of Dangerous Goods; TGG – Dutch Threshold Limit Value; TGV – Swedish OEL; TLV Threshold Limit Value; TLV-C - Threshold Limit Value Ceiling; TWA -Time Weighted Average; UDS - Unscheduled DNA Synthesis; UN - United Nations; VLE - Valeurs limites d'exposition professionnelle aux agents chimiques en France; VME - Valeur (Limite) Moyenne d'Exposition; VOC - Volatile Organic Compound[s]; WEEL - Workplace Environmental Exposure Level; % w/w Percent weight by weight; %(V) Percent Volume

Further information

Date format

dd.mm.yyyy

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

99 / EN

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



according to Regulation (EC) No. 1907/2006

GA-1000

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025			
SECTION 1: Identification of the substance/mixture and of the company/undertaking					
1.1 Product identifier					
Product name	: GA-1000				
1.2 Relevant identified uses of the su	bstance or mixture and uses advised against				
Use of the Substance/Mixture	: Scientific research and development				
1.3 Details of the supplier of the safe	ty data sheet				
Company	: Lonza Ltd Muenchensteinerstrasse 38 CH-4002 Basel, Switzerland Business Telephone: +41 61 316 81 11				
	Lonza Verviers Sprl Parc Industriel de Petit-Rechain BE-4800 Verviers, Belgium Business Telephone: +32 8732 1611				
	Lonza Cologne GmbH Nattermannallee 1 DE-50829 Köln, Germany Business Telephone: + 49 221 99 1990				
	Lonza Copenhagen ApS Strandhaven 12 DK-2665 Vallensbaek Strand, Denmark Business Telephone: + 45 4356 7400				
E-mail address Responsible/issuing person	sds@lonza.com				
1.4 Emergency telephone number Emergency telephone number	: Lonza Ltd, CH-4002 Basel, Switzerland Telephone: +41 61 313 94 94 (24h)				

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)				
Respiratory sensitisation, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.			
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.			

Ref. 46041.1 / 000000010126



according to Regulation (EC) No. 1907/2006

GA-1000

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
2.2 Label elements		
Labelling (REGULATION (E	C) No 1272/2008)	
Hazard pictograms		
Signal word	: Danger	
Hazard statements	: H317 May cause an allergic skin H334 May cause allergy or asthm difficulties if inhaled.	
Precautionary statements	 Prevention: P261 Avoid breathing dust/ fume P280 Wear protective gloves. P284 Wear respiratory protection Response: P304 + P340 IF INHALED: Remo keep comfortable for breathing. P333 + P313 If skin irritation or ra advice/ attention. P342 + P311 If experiencing resp POISON CENTER/ doctor. 	n. ove person to fresh air and ash occurs: Get medical

Hazardous components which must be listed on the label:

Gentamicin, sulfate (salt)

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

3.2 Mixtures

Components

Chemical name	CAS-No.	Classification	Concentration

Ref. 46041.1 / 00000010126



according to Regulation (EC) No. 1907/2006

GA-1000

Version 3.0	Revision Date 16.12.	2021	Print Date 02.01.2025	
	EC-No. Index-No. REACH Registration Number		(% w/w)	
Gentamicin, sulfate (salt)	1405-41-0	Resp. Sens. 1; H334 Skin Sens. 1; H317	>= 3 - < 5	

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	: When symptoms persist or in all cases of doubt seek medical advice.			
If inhaled	 Move to fresh air. Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration. 			
In case of skin contact	 After contact with skin, wash immediately with plenty of soap and water. Wash clothing before reuse. Get medical attention if irritation develops and persists. 			
In case of eye contact	 In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. If eye irritation persists, consult a specialist. 			
If swallowed	 Immediately give plenty of water (if possible charcoal slurry). Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Take victim immediately to hospital. 			
4.2 Most important symptoms and	l effects, both acute and delayed			
Symptoms	: Allergic appearance sensitising effects			
4.3 Indication of any immediate medical attention and special treatment needed				
Treatment	: Treat symptomatically.			
SECTION 5: Firefighting measure	Jres			

SECTION 5: Firefighting measures

5.1	Extinguishing	media
-----	---------------	-------

Suitable extinguishing media :		Not combustible.
--------------------------------	--	------------------

Ref. 46041.1 / 000000010126



according to Regulation (EC) No. 1907/2006

GA-1000

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
	Use extinguishing measures that an circumstances and the surrounding	
5.2 Special hazards arising from the s	substance or mixture	
Hazardous combustion products	: No hazardous combustion products	s are known
5.3 Advice for firefighters		
Special protective equipment for firefighters	: In the event of fire, wear self-contai	ined breathing apparatus.
Further information	: Use water spray to cool unopened	containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equ Personal precautions	ip :	ment and emergency procedures Use respirator when performing operations involving potential exposure to vapour of the product. Refer to protective measures listed in sections 7 and 8.
6.2 Environmental precautions		
Environmental precautions	:	No special environmental precautions required.
6.3 Methods and material for containmer	nt a	and cleaning up
Methods for cleaning up	:	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
6.4 Reference to other sections		
For personal protection see section 8.		
SECTION 7: Handling and storage		
7.1 Precautions for safe handling		In case of insufficient ventilation, wear suitable respiratory

Advice on safe handling	:	In case of insufficient ventilation, wear suitable respiratory equipment. Avoid exposure - obtain special instructions before use. Use only in area provided with appropriate exhaust ventilation. Avoid contact with skin and eyes.
Advice on protection against fire and explosion	:	Stable under normal conditions.



according to Regulation (EC) No. 1907/2006

GA-1000

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
Hygiene measures	: DANGER! Avoid contact with th breathing dust or spray mist. W immediately after handling the p	ash hands before breaks and
7.2 Conditions for safe storage, inc	luding any incompatibilities	
Requirements for storage areas a containers	and : Keep frozen or refrigerated.	
7.3 Specific end use(s)		
Specific use(s)	: No information available.	
SECTION 8: Exposure controls/	personal protection	
8.1 Control parameters		
Occupational Exposure Limits		
Contains no substances with	n occupational exposure limit values.	
8.2 Exposure controls		
Engineering measures Provide sufficient air exchange a	nd/or exhaust in work rooms.	
Personal protective equipment		
Eye protection	: Safety glasses Safety goggles	
Hand protection		
Material Rate of permeability	: Nitrile rubber : > 480 min	
Rate of permeability	. > 400 mm	
Skin and body protection	: Choose body protection accord concentration of the dangerous Complete suit protecting agains	substance at the work place.
Respiratory protection	: In case of mist, spray or aeroso personal respiratory protection a	
	Respirator with ABEK filter. Respirator with combination filte 141)	er for vapour/particulate (EN

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties



according to Regulation (EC) No. 1907/2006

GA-1000

sion 3.0	Revision Date 16.12.2021	Print Date 02.01.20
Physical state	liquid	
Appearance	Aqueous solution	
Colour	light yellow	
Odour	odourless	
Melting point/freezing point	0 °C	
Initial boiling point and boiling range	no data available	
Flammability	no data available	
Upper explosion limit / upper flammability limit	no data available	
Lower explosion limit / Lower flammability limit	no data available	
Flash point	Does not sustain combustion.	
Auto-ignition temperature	no data available	
Decomposition temperature	no data available	
рН	no data available	
Viscosity	no data available	
Solubility(ies) Water solubility	soluble	
Partition coefficient: n-octanol/water	no data available	
Vapour pressure	no data available	
Relative density	no data available	
Density	no data available	
Relative vapour density	no data available	
Particle characteristics	no data available	

no data available



according to Regulation (EC) No. 1907/2006

GA-1000

Version 3.0		Revision Date 16.12.2021	Print Date 02.01.202
SECTION 10: Stability and reactivity	,		
10.1 Reactivity Stable under recommended storage c	on	ditions.	
10.2 Chemical stability Stable under normal conditions.			
10.3 Possibility of hazardous reactions Hazardous reactions	:	Stable under normal conditions.	
10.4 Conditions to avoid Conditions to avoid	:	None known.	
10.5 Incompatible materials Materials to avoid	:	Strong oxidizing agents	
10.6 Hazardous decomposition products	S		
11.1 Information on hazard classes as d			
SECTION 11: Toxicological informat 11.1 Information on hazard classes as d 11.2 Information on other hazards			
SECTION 11: Toxicological informat			g properties according Delegated regulation
SECTION 11: Toxicological informat 11.1 Information on hazard classes as d 11.2 Information on other hazards Endocrine disrupting properties		The substance/mixture does not contai considered to have endocrine disruptin to REACH Article 57(f) or Commission (EU) 2017/2100 or Commission Regula	g properties according Delegated regulation ation (EU) 2018/605 at
SECTION 11: Toxicological informat 11.1 Information on hazard classes as d 11.2 Information on other hazards Endocrine disrupting properties Assessment Further information	:	The substance/mixture does not contai considered to have endocrine disruptin to REACH Article 57(f) or Commission (EU) 2017/2100 or Commission Regula levels of 0.1% or higher.	g properties according Delegated regulation ation (EU) 2018/605 at
SECTION 11: Toxicological informat 11.1 Information on hazard classes as d 11.2 Information on other hazards Endocrine disrupting properties Assessment	:	The substance/mixture does not contai considered to have endocrine disruptin to REACH Article 57(f) or Commission (EU) 2017/2100 or Commission Regula levels of 0.1% or higher.	g properties according Delegated regulation ation (EU) 2018/605 at
SECTION 11: Toxicological informat 11.1 Information on hazard classes as d 11.2 Information on other hazards Endocrine disrupting properties Assessment Further information SECTION 12: Ecological information	:	The substance/mixture does not contai considered to have endocrine disruptin to REACH Article 57(f) or Commission (EU) 2017/2100 or Commission Regula levels of 0.1% or higher.	g properties according Delegated regulation ation (EU) 2018/605 at
SECTION 11: Toxicological informat 11.1 Information on hazard classes as d 11.2 Information on other hazards Endocrine disrupting properties Assessment Further information SECTION 12: Ecological information 12.1 Toxicity	:	The substance/mixture does not contai considered to have endocrine disruptin to REACH Article 57(f) or Commission (EU) 2017/2100 or Commission Regula levels of 0.1% or higher. Remarks: No data is available on the p	g properties according Delegated regulation ation (EU) 2018/605 at
SECTION 11: Toxicological informat 11.1 Information on hazard classes as d 11.2 Information on other hazards Endocrine disrupting properties Assessment Further information SECTION 12: Ecological information 12.1 Toxicity Toxicity to fish	:	The substance/mixture does not contai considered to have endocrine disruptin to REACH Article 57(f) or Commission (EU) 2017/2100 or Commission Regula levels of 0.1% or higher. Remarks: No data is available on the p	g properties according Delegated regulation ation (EU) 2018/605 at



according to Regulation (EC) No. 1907/2006

GA-1000

Version 3.0	Re	evision Date 16.12.2021	Print Date 02.01.2025
12.3 Bioaccumulative potential			
Bioaccumulation	: F	Remarks: no data available	
12.4 Mobility in soil			
Distribution among environmental compartments	: F	Remarks: no data available	
12.5 Results of PBT and vPvB assessm	ent		
Assessment	b p	This substance/mixture contains no compon be either persistent, bioaccumulative and to persistent and very bioaccumulative (vPvB) higher.	xic (PBT), or very
12.6 Endocrine disrupting properties			
Endocrine disrupting potential	c te (The substance/mixture does not contain cor considered to have endocrine disrupting pro to REACH Article 57(f) or Commission Dele EU) 2017/2100 or Commission Regulation evels of 0.1% or higher.	perties according gated regulation
12.7 Other adverse effects			
Endocrine disrupting potential	c te (The substance/mixture does not contain cor considered to have endocrine disrupting pro o REACH Article 57(f) or Commission Dele EU) 2017/2100 or Commission Regulation evels of 0.1% or higher.	perties according gated regulation
Additional ecological information	: N	No data is available on the product itself.	

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Dispose of in accordance with local regulations.
Contaminated packaging	:	Dispose of as unused product.



GA-1000

Version 3.0

Revision Date 16.12.2021

Print Date 02.01.2025

SECTION 14: Transport information

ΙΑΤΑ Not dangerous goods 14.1 **UN number** Not applicable 14.2 Proper shipping name Not applicable 14.3 **Transport hazard class** Not applicable 14.4 Packing group Not applicable 14.5 **Environmental hazards** ÷ no **IMDG-CODE** Not dangerous goods 14.1 **UN number** Not applicable **Proper shipping name** Not applicable 14.2 Not applicable 14.3 Transport hazard class • 14.4 Packing group Not applicable 1 14.5 **Environmental hazards** Marine pollutant: no · ADR Not dangerous goods 14.1 **UN number** Not applicable 14.2 Proper shipping name Not applicable 14.3 **Transport hazard class** Not applicable 1 Packing group Not applicable 14.4 1 14.5 **Environmental hazards** 2 no 1 RID Not dangerous goods 14.1 **UN number** : Not applicable Proper shipping name Not applicable 14.2 Not applicable 14.3 Transport hazard class Packing group Not applicable 14.4 2 14.5 **Environmental hazards** 5 no DOT 2 Not dangerous goods 14.1 **UN number** Not applicable 5 14.2 **Proper shipping name** Not applicable : 14.3 Transport hazard class Not applicable 5 14.4 Packing group Not applicable ÷ 14.5 **Environmental hazards** ÷ no



according to Regulation (EC) No. 1907/2006

GA-1000

Versio	n 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
TDG		: Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture REACH - Restrictions on the manufacture, placing on the : Not applicable market and use of certain dangerous substances, preparations and articles (Annex XVII) REACH - Candidate List of Substances of Very High Concern : Not applicable for Authorisation (Article 59). REACH - List of substances subject to authorisation (Annex Not applicable XIV) Regulation (EC) No 1005/2009 on substances that deplete the Not applicable ozone layer Regulation (EU) 2019/1021 on persistent organic pollutants Not applicable (recast) Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. Not applicable National regulatory information Water hazard class (Germany) WGK 1 slightly hazardous to water 2 Remarks: Classification according to AwSV, Annex 1 (5.2)

GA-1000

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025

15.2 Chemical safety assessment

not required

SECTION 16: Other information

Classification of th	ne mixture:	Classification procedure:
Resp. Sens. 1	H334	Calculation method
Skin Sens. 1	H317	Calculation method
Full text of H-State	ements	
H317		: May cause an allergic skin reaction.
H334		: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Full text of other a	bbreviations	
Resp. Sens.		: Respiratory sensitisation
<u> </u>		

Skin Sens. : Skin sensitisation

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ATE -Acute Toxicity Estimate; AwSV - Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen / Ordinance on facilities for handling substances that are hazardous to water; BPR - Biocidal Product Regulation; bw - Body weight; CAS - Chemical Abstract Service; CLP - Classification Labelling Packaging Regulation, Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DNEL-Derived No Effect Level; DOT - Department of Transportation; EC – European Community; ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; EmS (Emergency Response Procedures for Ships Carrying Dangerous Goods); EN – European Standard; ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; EU OEL - European Occupational Exposure Limit; GHS -Globally Harmonized System of Classification and Labelling of Chemicals; GLP - Good Laboratory Practice; GV – Danish Exposure Limits for Substances and Materials; 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; IMDG - International Maritime Dangerous Goods: LC50 - Lethal Concentration to 50 % of a test population: LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); LOFT - Danish Threshold Limit Value; MAK - German Threshold Limit Value; MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NIOSH/Guide - National Institute of Safety and Health Guidebook; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NTP -National Toxicology Program; OECD - Organization for Economic Co-operation and Development; PBT -Persistent, Bioaccumulative and Toxic substance; PEL - Permissible Exposure Limit; PNEC - Predicted no Effect Concentration; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; REL -Recommended Exposure Limit; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; STEL - Short-Term Exposure Limit; TDG - Transportation of Dangerous Goods; TGG -Dutch Threshold Limit Value; TGV - Swedish OEL; TLV Threshold Limit Value; TLV-C - Threshold Limit Value Ceiling; TWA -Time Weighted Average; UDS - Unscheduled DNA Synthesis; UN - United Nations;



according to Regulation (EC) No. 1907/2006

GA-1000

Version 3.0

Revision Date 16.12.2021

Print Date 02.01.2025

VLE - Valeurs limites d'exposition professionnelle aux agents chimiques en France; VME - Valeur (Limite) Moyenne d'Exposition; VOC - Volatile Organic Compound[s]; WEEL - Workplace Environmental Exposure Level; % w/w Percent weight by weight; %(V) Percent Volume

Further information

Date format

dd.mm.yyyy

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

99 / EN

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



Fetal Bovine Serum

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
SECTION 1: Identification of the s	ubstance/mixture and of the company/	undertaking
1.1 Product identifier		
Product name	: Fetal Bovine Serum	
1.2 Relevant identified uses of the su	bstance or mixture and uses advised agair	nst
Use of the Substance/Mixture	: Scientific research and development	
1.3 Details of the supplier of the safe	y data sheet	
Company	: Lonza Ltd Muenchensteinerstrasse 38 CH-4002 Basel, Switzerland Business Telephone: +41 61 316 81 11	1
	Lonza Verviers Sprl Parc Industriel de Petit-Rechain BE-4800 Verviers, Belgium Business Telephone: +32 8732 1611	
	Lonza Cologne GmbH Nattermannallee 1 DE-50829 Köln, Germany Business Telephone: + 49 221 99 1990	D
	Lonza Copenhagen ApS Strandhaven 12 DK-2665 Vallensbaek Strand, Denmarl Business Telephone: + 45 4356 7400	k
E-mail address Responsible/issuing person	sds@lonza.com	
1.4 Emergency telephone number		
Emergency telephone number	: Lonza Ltd, CH-4002 Basel, Switzerland Telephone: +41 61 313 94 94 (24h)	b

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

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

Ref. / 00000016003



Fetal Bovine Serum

	Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
--	-------------	--------------------------	-----------------------

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

3.2 Mixtures

Components

Remarks

: No hazardous ingredients

SECTION 4: First aid measures

4.1 Description of first aid measures				
If inhaled :	No special precautions required.			
In case of skin contact :	Wash with water and soap as a precaution. If skin irritation persists, call a physician.			
In case of eye contact :	Immediately flush eye(s) with plenty of water. If eye irritation persists, consult a specialist.			
If swallowed :	Immediately give large quantities of water to drink. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.			
4.2 Most important symptoms and effects, both acute and delayed				
Symptoms :	No information available.			

4.3 Indication of any immediate medical attention and special treatment needed

Treatment

: No information available.



according to Regulation (EC) No. 1907/2006

Fetal Bovine Serum

Version 3.0		Revision Date 16.12.2021	Print Date 02.01.202
SECTION 5: Firefighting measures			
5.1 Extinguishing media			
Suitable extinguishing media	:	Water spray Dry powder Foam	
5.2 Special hazards arising from the s	ubst	ance or mixture	
Hazardous combustion products	:	No hazardous combustion products	are known
5.3 Advice for firefighters			
Special protective equipment for firefighters	:	In the event of fire, wear self-contain	ed breathing apparatus.
Further information	:	Use water spray to cool unopened co	ontainers.
SECTION 6: Accidental release me	asu	res	
6.1 Personal precautions, protective e	quip	ment and emergency procedures	
Personal precautions	:	Use personal protective equipment.	
6.2 Environmental precautions			
Environmental precautions	:	Prevent product from entering drains	5.
6.3 Methods and material for containm	nent	and cleaning up	
Methods for cleaning up	:	Contain spillage, and then collect wit absorbent material, (e.g. sand, earth vermiculite) and place in container for local / national regulations (see section	, diatomaceous earth, or disposal according to
6.4 Reference to other sections			
For personal protection see section	8.		
SECTION 7: Handling and storage			
7.1 Precautions for safe handling			
Advice on safe handling	:	No special precautions required.	
Advice on protection against fire and explosion	: t	No special precautions required.	
Hygiene measures	:	Handle in accordance with good indu	ustrial hygiene and safety
Ref. / 000000016003		SDK_EU/EN	Page 27 (



according to Regulation (EC) No. 1907/2006

Fetal Bovine Serum

Version 3.0		Revision Date 16.12.2021	Print Date 02.01.2025
		practice.	
7.2 Conditions for safe storage, includ	ling	any incompatibilities	
Requirements for storage areas and containers	:	Keep tightly closed.	
		Store in cool place.	
7.3 Specific end use(s)			
Specific use(s)	:	No information available.	
SECTION 8: Exposure controls/per	sor	al protection	
8.1 Control parameters			
Occupational Exposure Limits			
Contains no substances with or	ccup	ational exposure limit values.	
8.2 Exposure controls			
Engineering measures Avoid splashes.			
Personal protective equipment			
Eye protection	:	Tightly fitting safety goggles	
Hand protection Material Rate of permeability	:	Nitrile rubber > 480 min	
Skin and body protection	:	Choose body protection according to the ar concentration of the dangerous substance a No special protective equipment required.	
Respiratory protection	:	No personal respiratory protective equipme required.	ent normally

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: liquid	
Appearance	: Aqueous solution	
Colour	: brown	
Ref. / 00000016003	SDK_EU / EN	Page 28 (57)



according to Regulation (EC) No. 1907/2006

Fetal Bovine Serum

ion 3.0	Revision Date 16.1	2.2021 Print Date 02.01	.2
Odour	no data available		
Melting point/freezing point	no data available		
Initial boiling point and boiling range	no data available		
Flammability	no data available		
Upper explosion limit / upper flammability limit	no data available		
Lower explosion limit / Lower flammability limit	no data available		
Flash point	no data available		
Auto-ignition temperature	no data available		
Decomposition temperature Decomposition temperature	no data available		
рН	6,8 - 8,3		
Viscosity Viscosity, kinematic	no data available		
Solubility(ies) Water solubility	no data available		
Partition coefficient: n-octanol/water	no data available		
Vapour pressure	no data available		
Relative density	no data available		
Density	no data available		
Relative vapour density	no data available		
Particle characteristics	no data available		

9.2 Other information

no data available



Fetal Bovine Serum

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.202
SECTION 10: Stability and reactivi	y	
10.1 Reactivity Stable under recommended storage	conditions.	
10.2 Chemical stability Stable under normal conditions.		
10.3 Possibility of hazardous reaction Hazardous reactions	: Stable under normal conditions.	
10.4 Conditions to avoid Conditions to avoid	: no data available	
10.5 Incompatible materials Materials to avoid	: Strong oxidizing agents	
10.6 Hazardous decomposition produ No decomposition if stored normally		
Acute toxicity Acute oral toxicity	: Remarks: no data available	
Acute inhalation toxicity Acute dermal toxicity	Remarks: no data availableRemarks: no data available	
Skin corrosion/irritation	Remarks: no data available	
Serious eye damage/eye irritation	Remarks: no data available	
Respiratory or skin sensitisation	Remarks: no data available	
Germ cell mutagenicity Genotoxicity in vitro	: Remarks: no data available	



according to Regulation (EC) No. 1907/2006

Fetal Bovine Serum

Carcinogenicity	Remarks: no data available	
Reproductive toxicity		
Effects on fertility	: Remarks: no data available	
STOT - single exposure		
	Remarks: no data available	
STOT - repeated exposure		
	Remarks: no data available	
1.2 Information on other hazards		
Endocrine disrupting properties		
Assessment	: The substance/mixture does no considered to have endocrine d to REACH Article 57(f) or Comr (EU) 2017/2100 or Commission levels of 0.1% or higher.	lisrupting properties according mission Delegated regulation
Further information		
	Remarks: No data is available o	on the product itself.
SECTION 12: Ecological information		
12.1 Toxicity		
Toxicity to fish	: Remarks: no data available	
2.2 Persistence and degradability		
Biodegradability	: Result: no data available	
12.3 Bioaccumulative potential		
Bioaccumulation	: Remarks: no data available	
12.4 Mobility in soil		
Distribution among environmental compartments	: Remarks: no data available	
12.5 Results of PBT and vPvB assessm	ent	
Assessment	: This substance/mixture contains be either persistent, bioaccumu persistent and very bioaccumula	lative and toxic (PBT), or very
Ref. / 00000016003	SDK_EU / EN	Page 31



according to Regulation (EC) No. 1907/2006

Fetal Bovine Serum

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
	higher.	
12.6 Endocrine disrupting properties		
Endocrine disrupting potential	 The substance/mixture does not co considered to have endocrine disru to REACH Article 57(f) or Commiss (EU) 2017/2100 or Commission Re levels of 0.1% or higher. 	pting properties according ion Delegated regulation
12.7 Other adverse effects		
Endocrine disrupting potential	 The substance/mixture does not co considered to have endocrine disru to REACH Article 57(f) or Commiss (EU) 2017/2100 or Commission Re levels of 0.1% or higher. 	pting properties according ion Delegated regulation
Additional ecological information	: no data available	

SECTION 13: Disposal considerations

13.1 Was	te treatment	methods
----------	--------------	---------

Product

: Dispose of in accordance with local regulations.

SECTION 14: Transport information

ΙΑΤΑ		Not dangerous goods
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no
IMDG	-CODE	Not dangerous goods
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable Marine pollutant: no



Fetal Bovine Serum

Versior	3.0	Revision Date 16.12.2021	Print Date 02.01.2025
ADR		: Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	
RID		Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	
DOT		: Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	
TDG		: Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Ref. / 00000016003



Fetal Bovine Serum

Version 3.0	Revision Date 16.12.2021		Print Date 02.01.2025
REACH - Restrictions on the manuface market and use of certain dangerous s and articles (Annex XVII)		Not applicable	
REACH - Candidate List of Substance for Authorisation (Article 59).	es of Very High Concern :	Not applicable	
REACH - List of substances subject to XIV)	authorisation (Annex	Not applicable	
Regulation (EC) No 1005/2009 on sub ozone layer	ostances that deplete the	Not applicable	
Regulation (EU) 2019/1021 on persist (recast)	ent organic pollutants	Not applicable	
Seveso III: Directive 2012/18/EU of th major-accident hazards involving dang		of the Council on th	e control of
National regulatory information			
Water hazard class (Germany)	: WGK 1 slightly hazardou Remarks: Classification		, Annex 1 (4)
15.2 Chemical safety assessment			

not required

SECTION 16: Other information

Full text of other abbreviations

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ATE -Acute Toxicity Estimate; AwSV - Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen / Ordinance on facilities for handling substances that are hazardous to water; BPR - Biocidal Product Regulation; bw - Body weight; CAS - Chemical Abstract Service; CLP - Classification Labelling Packaging Regulation, Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DNEL-Derived No Effect Level; DOT - Department of Transportation: EC – European Community: ECHA - European Chemicals Agency: EC-Number - European Community number; ECx - Concentration associated with x% response; EmS (Emergency Response Procedures for Ships Carrying Dangerous Goods); EN – European Standard; ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; EU OEL - European Occupational Exposure Limit; GHS -Globally Harmonized System of Classification and Labelling of Chemicals; GLP - Good Laboratory Practice; GV – Danish Exposure Limits for Substances and Materials; 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; IMDG - International Maritime Dangerous Goods; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test



Fetal Bovine Serum

Version 3.0Revision Date 16.12.2021Print Date 02.01.2025population (Median Lethal Dose); LOFT - Danish Threshold Limit Value; MAK - German Threshold Limit
Value; MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not
Otherwise Specified; NIOSH/Guide – National Institute of Safety and Health Guidebook; NO(A)EC - No

Otherwise Specified; NIOSH/Guide – National Institute of Safety and Health Guidebook; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NTP -National Toxicology Program; OECD - Organization for Economic Co-operation and Development; PBT -Persistent, Bioaccumulative and Toxic substance; PEL - Permissible Exposure Limit; PNEC - Predicted no Effect Concentration; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; REL -Recommended Exposure Limit; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; STEL - Short-Term Exposure Limit; TDG - Transportation of Dangerous Goods; TGG – Dutch Threshold Limit Value; TGV – Swedish OEL; TLV Threshold Limit Value; TLV-C - Threshold Limit Value Ceiling; TWA -Time Weighted Average; UDS - Unscheduled DNA Synthesis; UN - United Nations; VLE - Valeurs limites d'exposition professionnelle aux agents chimiques en France; VME - Valeur (Limite) Moyenne d'Exposition; VOC - Volatile Organic Compound[s]; WEEL - Workplace Environmental Exposure Level; % w/w Percent weight by weight; %(V) Percent Volume

Further information

Date format

: dd.mm.yyyy

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

99 / EN

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



L-GLUTAMINE

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
SECTION 1: Identification of the s	ubstance/mixture and of the company/	/undertaking
1.1 Product identifier Product name	: L-GLUTAMINE	
1.2 Relevant identified uses of the su Use of the Substance/Mixture	bstance or mixture and uses advised again : Scientific research and development	nst
1.3 Details of the supplier of the safe	y data sheet	
Company	: Lonza Ltd Muenchensteinerstrasse 38 CH-4002 Basel, Switzerland Business Telephone: +41 61 316 81 1	1
	Lonza Verviers Sprl Parc Industriel de Petit-Rechain BE-4800 Verviers, Belgium Business Telephone: +32 8732 1611	
	Lonza Cologne GmbH Nattermannallee 1 DE-50829 Köln, Germany Business Telephone: + 49 221 99 199	0
	Lonza Copenhagen ApS Strandhaven 12 DK-2665 Vallensbaek Strand, Denmar Business Telephone: + 45 4356 7400	'n
E-mail address Responsible/issuing person	sds@lonza.com	
1.4 Emergency telephone number Emergency telephone number	: Lonza Ltd, CH-4002 Basel, Switzerlan Telephone: +41 61 313 94 94 (24h)	d

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

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

Ref. / 00000028037



L-GLUTAMINE

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025

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

3.2 Mixtures

Components

Remarks

: No hazardous ingredients

SECTION 4: First aid measures

4.1 Description of first aid measures If inhaled	:	No special precautions required.	
In case of skin contact	:	Wash with water and soap as a precaution. If skin irritation persists, call a physician.	
In case of eye contact	:	Immediately flush eye(s) with plenty of water. If eye irritation persists, consult a specialist.	
If swallowed	:	Immediately give large quantities of water to drink. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.	
4.2 Most important symptoms and effects, both acute and delayed			
Symptoms	:	No information available.	

4.3 Indication of any immediate medical attention and special treatment needed

Treatment

: No information available.



according to Regulation (EC) No. 1907/2006

L-GLUTAMINE

Version 3.0		Revision Date 16.12.2021	Print Date 02.01.202
SECTION 5: Firefighting measures			
5.1 Extinguishing media			
Suitable extinguishing media	:	Water spray Dry powder Foam	
5.2 Special hazards arising from the su	ıbst	ance or mixture	
Hazardous combustion products	:	Nitrogen oxides (NOx) Carbon oxides (Cox)	
5.3 Advice for firefighters			
Special protective equipment for firefighters	:	In the event of fire, wear self-contain	ed breathing apparatus.
Further information	:	Use water spray to cool unopened co	ontainers.
5.1 Personal precautions, protective ed Personal precautions	quip :	oment and emergency procedures Use personal protective equipment.	
Personal precautions	quip :	• • • •	
Personal precautions	:	• • • •	
6.2 Environmental precautions Environmental precautions	:	Use personal protective equipment. Prevent product from entering drains	
Personal precautions 6.2 Environmental precautions Environmental precautions	:	Use personal protective equipment. Prevent product from entering drains	h non-combustible , diatomaceous earth, or disposal according to
Personal precautions 6.2 Environmental precautions Environmental precautions 6.3 Methods and material for containm Methods for cleaning up	:	Use personal protective equipment. Prevent product from entering drains and cleaning up Contain spillage, and then collect wit absorbent material, (e.g. sand, earth vermiculite) and place in container for	h non-combustible , diatomaceous earth, or disposal according to
Personal precautions 6.2 Environmental precautions Environmental precautions 6.3 Methods and material for containm	ent	Use personal protective equipment. Prevent product from entering drains and cleaning up Contain spillage, and then collect wit absorbent material, (e.g. sand, earth vermiculite) and place in container for	h non-combustible , diatomaceous earth, or disposal according to
Personal precautions 6.2 Environmental precautions Environmental precautions 6.3 Methods and material for containm Methods for cleaning up 6.4 Reference to other sections	ent	Use personal protective equipment. Prevent product from entering drains and cleaning up Contain spillage, and then collect wit absorbent material, (e.g. sand, earth vermiculite) and place in container for	h non-combustible , diatomaceous earth, or disposal according to
Personal precautions 6.2 Environmental precautions Environmental precautions 6.3 Methods and material for containm Methods for cleaning up 6.4 Reference to other sections For personal protection see section 8 SECTION 7: Handling and storage	ent	Use personal protective equipment. Prevent product from entering drains and cleaning up Contain spillage, and then collect wit absorbent material, (e.g. sand, earth vermiculite) and place in container for	h non-combustible , diatomaceous earth, or disposal according to
Personal precautions 6.2 Environmental precautions Environmental precautions 6.3 Methods and material for containm Methods for cleaning up 6.4 Reference to other sections For personal protection see section 8 SECTION 7: Handling and storage	ent	Use personal protective equipment. Prevent product from entering drains and cleaning up Contain spillage, and then collect wit absorbent material, (e.g. sand, earth vermiculite) and place in container for	h non-combustible , diatomaceous earth, or disposal according to
Personal precautions 6.2 Environmental precautions Environmental precautions 6.3 Methods and material for containm Methods for cleaning up 6.4 Reference to other sections For personal protection see section 8 SECTION 7: Handling and storage 7.1 Precautions for safe handling	• • • • • • • • • • • • • • • • • • •	Use personal protective equipment. Prevent product from entering drains and cleaning up Contain spillage, and then collect wit absorbent material, (e.g. sand, earth vermiculite) and place in container for local / national regulations (see secti	h non-combustible , diatomaceous earth, or disposal according to on 13).



according to Regulation (EC) No. 1907/2006

L-GLUTAMINE

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025		
Hygiene measures	: Handle in accordance with good ind practice.	lustrial hygiene and safety		
7.2 Conditions for safe storage, including any incompatibilities				

Requirements for storage areas and : No special storage conditions required. containers

7.3 Specific end use(s)

Specific use(s)

: No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering measures Avoid splashes.	
Personal protective equipment Eye protection	: Safety glasses
Hand protection Material Rate of permeability	: Nitrile rubber : > 480 min
Skin and body protection	 Choose body protection according to the amount and concentration of the dangerous substance at the work place. No special protective equipment required.
Respiratory protection	: No personal respiratory protective equipment normally required.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: liquid
Appearance	: Aqueous solution
Colour	: no data available



according to Regulation (EC) No. 1907/2006

L-GLUTAMINE

sion 3.0	Revision Date 16.12.2021	Print Date 02.01.2
Odour	: no data available	
Melting point/freezing point	: no data available	
Initial boiling point and boiling range	: no data available	
Flammability	: no data available	
Upper explosion limit / upper flammability limit	: no data available	
Lower explosion limit / Lower flammability limit	: no data available	
Flash point	: no data available	
Auto-ignition temperature	: no data available	
Decomposition temperature Decomposition temperature	: no data available	
рН	: no data available	
Viscosity Viscosity, kinematic	: no data available	
Solubility(ies) Water solubility	: no data available	
Partition coefficient: n-octanol/water	: no data available	
Vapour pressure	: no data available	
Relative density	: no data available	
Density	: no data available	
Relative vapour density	: no data available	
Particle characteristics	: no data available	

9.2 Other information

no data available



according to Regulation (EC) No. 1907/2006

L-GLUTAMINE

ersion 3.0 Revision Date 16.12.2021			Print Date 02.01.2025	
SECTION 10: Stability and reactivity				
10.1 Reactivity Stable under recommended storage	e cor	nditions.		
10.2 Chemical stability Stable under normal conditions.				
10.3 Possibility of hazardous reaction Hazardous reactions	ns	Stable under normal conditions.		
Hazardous reactions	•	Stable under normal conditions.		
10.4 Conditions to avoid				
Conditions to avoid	:	no data available		
10.5 Incompatible materials				
Materials to avoid	:	Strong oxidizing agents		
No decomposition if stored normally SECTION 11: Toxicological inform	у.	n		
-		ined in Regulation (EC) No 1272/2008		
Acute toxicity	5 001			
Acute oral toxicity	:	Remarks: no data available		
Acute inhalation toxicity	:	Remarks: no data available		
Acute dermal toxicity	:	Remarks: no data available		
Skin corrosion/irritation				
		Remarks: no data available		
Serious eye damage/eye irritation	n			
		Remarks: no data available		
Respiratory or skin sensitisation				
		Remarks: no data available		
Germ cell mutagenicity				
Genotoxicity in vitro	:	Remarks: no data available		
Ref. / 00000028037		SDK EU/EN	Page 41 (5	



according to Regulation (EC) No. 1907/2006

L-GLUTAMINE

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.202
Carcinogenicity		
	Remarks: no data available	
Reproductive toxicity		
Effects on fertility	: Remarks: no data available	
STOT - single exposure		
	Remarks: no data available	
STOT - repeated exposure		
	Remarks: no data available	
11.2 Information on other hazards		
Endocrine disrupting properties		
Assessment	: The substance/mixture does not considered to have endocrine dist to REACH Article 57(f) or Commis (EU) 2017/2100 or Commission R levels of 0.1% or higher.	rupting properties according ssion Delegated regulation
Further information		
	Remarks: No data is available on	the product itself.
SECTION 12: Ecological informatio	n	
12.1 Toxicity		
Toxicity to fish	: Remarks: no data available	
12.2 Persistence and degradability		
Biodegradability	: Result: no data available	
12.3 Bioaccumulative potential		
Bioaccumulation	: Remarks: no data available	
12.4 Mobility in soil		
Distribution among environmental compartments	: Remarks: no data available	
12.5 Results of PBT and vPvB assessm	nent	
Assessment	: This substance/mixture contains r be either persistent, bioaccumulat persistent and very bioaccumulation	tive and toxic (PBT), or very
Ref. / 00000028037	SDK_EU / EN	Page 42 (



according to Regulation (EC) No. 1907/2006

L-GLUTAMINE

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
	higher.	
12.6 Endocrine disrupting properties		
Endocrine disrupting potential	 The substance/mixture does not conta considered to have endocrine disruptin to REACH Article 57(f) or Commission (EU) 2017/2100 or Commission Regul levels of 0.1% or higher. 	ng properties according n Delegated regulation
12.7 Other adverse effects		
Endocrine disrupting potential	 The substance/mixture does not conta considered to have endocrine disruptin to REACH Article 57(f) or Commission (EU) 2017/2100 or Commission Regul levels of 0.1% or higher. 	ng properties according
Additional ecological information	: no data available	

SECTION 13: Disposal considerations

13.1 Wast	e treatment methods	
-----------	---------------------	--

Product

: Dispose of in accordance with local regulations.

SECTION 14: Transport information

ΙΑΤΑ		Not dangerous goods
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no
IMDG	-CODE	Not dangerous goods
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable Marine pollutant: no



according to Regulation (EC) No. 1907/2006

L-GLUTAMINE

Version	3.0	Revision Date 16.12.2021	Print Date 02.01.2025
ADR		: Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	
RID		Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	
DOT		: Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	
TDG		: Not dangerous goods	
14.1 14.2 14.3 14.4 14.5	UN number Proper shipping name Transport hazard class Packing group Environmental hazards	 Not applicable Not applicable Not applicable Not applicable no 	

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Ref. / 00000028037



according to Regulation (EC) No. 1907/2006

L-GLUTAMINE

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
REACH - Restrictions on the manuface market and use of certain dangerous and articles (Annex XVII)		icable
REACH - Candidate List of Substance for Authorisation (Article 59).	es of Very High Concern : Not appl	icable
REACH - List of substances subject to XIV)	o authorisation (Annex Not appl	icable
Regulation (EC) No 1005/2009 on sul ozone layer	bstances that deplete the Not appl	icable
Regulation (EU) 2019/1021 on persis (recast)	tent organic pollutants Not appl	icable
Seveso III: Directive 2012/18/EU of the major-accident hazards involving dan	ne European Parliament and of the Cou gerous substances. Not applicable	incil on the control of
National regulatory information		
Water hazard class (Germany)	: WGK 1 slightly hazardous to wate Remarks: Classification according	
15.2 Chemical safety assessment		

not required

SECTION 16: Other information

Full text of other abbreviations

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ATE -Acute Toxicity Estimate; AwSV - Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen / Ordinance on facilities for handling substances that are hazardous to water; BPR - Biocidal Product Regulation; bw - Body weight; CAS - Chemical Abstract Service; CLP - Classification Labelling Packaging Regulation, Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DNEL-Derived No Effect Level; DOT - Department of Transportation: EC – European Community: ECHA - European Chemicals Agency: EC-Number - European Community number; ECx - Concentration associated with x% response; EmS (Emergency Response Procedures for Ships Carrying Dangerous Goods); EN – European Standard; ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; EU OEL - European Occupational Exposure Limit; GHS -Globally Harmonized System of Classification and Labelling of Chemicals; GLP - Good Laboratory Practice; GV – Danish Exposure Limits for Substances and Materials; 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; IMDG - International Maritime Dangerous Goods; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test



L-GLUTAMINE

Version 3.0

Revision Date 16.12.2021

Print Date 02.01.2025

population (Median Lethal Dose); LOFT - Danish Threshold Limit Value; MAK - German Threshold Limit Value; MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NIOSH/Guide – National Institute of Safety and Health Guidebook; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NTP - National Toxicology Program; OECD - Organization for Economic Co-operation and Development; PBT - Persistent, Bioaccumulative and Toxic substance; PEL - Permissible Exposure Limit; PNEC - Predicted no Effect Concentration; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; REL - Recommended Exposure Limit; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; STEL - Short-Term Exposure Limit; TDG - Transportation of Dangerous Goods; TGG – Dutch Threshold Limit Value; TGV – Swedish OEL; TLV Threshold Limit Value; TLV-C - Threshold Limit Value Ceiling; TWA -Time Weighted Average; UDS - Unscheduled DNA Synthesis; UN - United Nations; VLE - Valeurs limites d'exposition professionnelle aux agents chimiques en France; VME - Valeur (Limite) Moyenne d'Exposition; VOC - Volatile Organic Compound[s]; WEEL - Workplace Environmental Exposure Level; % w/w Percent weight by weight; %(V) Percent Volume

Further information

Date format

: dd.mm.yyyy

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

99 / EN

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



Ascorbic Acid Solution

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
SECTION 1: Identification of the subs	stance/mixture and of the company/unde	ertaking
1.1 Product identifier		
Product name	: Ascorbic Acid Solution	
	ance or mixture and uses advised against	
Use of the Substance/Mixture	: Scientific research and development	
1.3 Details of the supplier of the safety d	ata sheet	
Company	: Lonza Ltd Muenchensteinerstrasse 38 CH-4002 Basel, Switzerland Business Telephone: +41 61 316 81 11	
	Lonza Verviers Sprl Parc Industriel de Petit-Rechain BE-4800 Verviers, Belgium Business Telephone: +32 8732 1611	
	Lonza Cologne GmbH Nattermannallee 1 DE-50829 Köln, Germany Business Telephone: + 49 221 99 1990	
	Lonza Copenhagen ApS Strandhaven 12 DK-2665 Vallensbaek Strand, Denmark Business Telephone: + 45 4356 7400	
E-mail address	_sds@lonza.com	
Responsible/issuing person		
1.4 Emergency telephone number		
Emergency telephone number	: Lonza Ltd, CH-4002 Basel, Switzerland Telephone: +41 61 313 94 94 (24h)	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

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

Ref. / 00000029017



Ascorbic Acid Solution

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025

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

3.2 Mixtures

Components

Remarks

: No hazardous ingredients

SECTION 4: First aid measures

4.1 Description of first aid measures	
If inhaled :	No special precautions required.
In case of skin contact :	Wash with water and soap as a precaution. If skin irritation persists, call a physician.
In case of eye contact :	Immediately flush eye(s) with plenty of water. If eye irritation persists, consult a specialist.
If swallowed :	Immediately give large quantities of water to drink. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.
4.2 Most important symptoms and effects,	both acute and delayed
Symptoms :	No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment

: No information available.



according to Regulation (EC) No. 1907/2006

Ascorbic Acid Solution

S	
: Water spray Dry powder Foam	
substance or mixture	
: No hazardous combustion pro	ducts are known
: In the event of fire, wear self-c	ontained breathing apparatus.
: Use water spray to cool unope	ned containers.
easures	
equipment and emergency procedu	ures
: Use personal protective equip	ment.
: Prevent product from entering	drains.
ment and cleaning up	
: Contain spillage, and then coll absorbent material, (e.g. sand vermiculite) and place in conta local / national regulations (see	, earth, diatomaceous earth, iner for disposal according to
n 8.	
9	
: No special precautions require	d.
nd : Take precautionary measures	against static discharges.
: Handle in accordance with goo	od industrial hygiene and safety
	 Water spray Dry powder Foam substance or mixture No hazardous combustion pro In the event of fire, wear self-c Use water spray to cool unope easures equipment and emergency procedut Use personal protective equipment and cleaning up Contain spillage, and then coll absorbent material, (e.g. sand vermiculite) and place in conta local / national regulations (see n 8. No special precautions require and : Take precautionary measures



according to Regulation (EC) No. 1907/2006

Ascorbic Acid Solution

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.202
	practice.	
7.2 Conditions for safe storage, inclu	ding any incompatibilities	
Requirements for storage areas ar containers	d : No special storage conditions re	equired.
7.3 Specific end use(s)		
Specific use(s)	: No information available.	
SECTION 8: Exposure controls/po	ersonal protection	
8.1 Control parameters		
Occupational Exposure Limits		
Contains no substances with	occupational exposure limit values.	
8.2 Exposure controls		
Engineering measures Avoid splashes.		
Personal protective equipment		
Eye protection	: Tightly fitting safety goggles	
Hand protection		
Material	: Nitrile rubber	
Rate of permeability	: > 480 min	
Skin and body protection	: Choose body protection accordi concentration of the dangerous No special protective equipmen	substance at the work place.
Respiratory protection	: No personal respiratory protecti required.	ve equipment normally

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Appearance	:	Aqueous solution
Colour	:	no data available



according to Regulation (EC) No. 1907/2006

Ascorbic Acid Solution

vailable vailable
vailable
vailable
vailable
ľ

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.



according to Regulation (EC) No. 1907/2006

Ascorbic Acid Solution

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
10.2 Chemical stability		
Stable under normal conditions.		
10.3 Possibility of hazardous reactions		
Hazardous reactions	: Stable under normal conditions.	
10.4 Conditions to avoid		
Conditions to avoid	: no data available	
10.5 Incompatible materials		
Materials to avoid	: Strong oxidizing agents	
10.6 Hazardous decomposition products	i	
No decomposition if stored normally.		

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity	
Acute oral toxicity	: Remarks: no data available
Acute inhalation toxicity	: Remarks: no data available
Acute dermal toxicity	: Remarks: no data available
Skin corrosion/irritation	Remarks: no data available
Serious eye damage/eye irritation	Remarks: no data available
Respiratory or skin sensitisation	Remarks: no data available
Germ cell mutagenicity	
Genotoxicity in vitro	: Remarks: no data available
Carcinogenicity	Remarks: no data available
Reproductive toxicity	
Effects on fertility	: Remarks: no data available
Ref. / 00000029017	SDK_EU / EN



according to Regulation (EC) No. 1907/2006

Ascorbic Acid Solution

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.20
STOT - single exposure		
	Remarks: no data available	
STOT - repeated exposure		
	Remarks: no data available	
11.2 Information on other hazards		
Endocrine disrupting properties		
Assessment	: The substance/mixture does not considered to have endocrine dis to REACH Article 57(f) or Comm (EU) 2017/2100 or Commission levels of 0.1% or higher.	srupting properties according ission Delegated regulation
Further information	Remarks: No data is available or	n the product itself.
SECTION 12: Ecological informatio	n	
12.1 Toxicity		
Toxicity to fish	: Remarks: no data available	
12.2 Persistence and degradability		
Biodegradability	: Result: no data available	
12.3 Bioaccumulative potential		
Bioaccumulation	: Remarks: no data available	
12.4 Mobility in soil		
Distribution among environmental compartments	: Remarks: no data available	
12.5 Results of PBT and vPvB assessr	ient	
Assessment	: This substance/mixture contains be either persistent, bioaccumula persistent and very bioaccumulat higher.	ative and toxic (PBT), or very
12.6 Endocrine disrupting properties		
Endocrine disrupting potential	: The substance/mixture does not considered to have endocrine dis	
Ref. / 00000029017	SDK_EU/EN	Page 53 (



Ascorbic Acid Solution

Versio	n 3 0	Revision Date 16.12.2021 Print Date 02.01.2
versio	11 3.0	
		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.
1270	ther adverse effects	
	ndocrine disrupting potential	: 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.
A	dditional ecological information	: no data available
SECT	ION 13: Disposal considerati	ons
13.1 W	aste treatment methods	
Pi	roduct	: Dispose of in accordance with local regulations.
SECT	ION 14: Transport informatio	n
ΙΑΤΑ		Not dangerous goods
14.1	UN number	: Not applicable
14.2	Proper shipping name	: Not applicable
14.3	Transport hazard class	: Not applicable
14.4 14.5	Packing group Environmental hazards	: Not applicable : no
14.5		. 10
IMDG-CODE		Not dangerous goods
14.1	UN number	: Not applicable
14.2	Proper shipping name	: Not applicable
14.3 14.4	Transport hazard class Packing group	: Not applicable
14.4	Environmental hazards	: Not applicable : Marine pollutant: no
14.5		
		: Not dangerous goods
14.5	UN number	: Not dangerous goods : Not applicable
14.5 ADR 14.1 14.2	UN number Proper shipping name	: Not applicable : Not applicable
14.5 ADR 14.1	UN number	: Not applicable

Environmental hazards

14.5

: no



Ascorbic Acid Solution

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025
RID	: Not dangerous goods	
 14.1 UN number 14.2 Proper shipping nam 14.3 Transport hazard cla 14.4 Packing group 14.5 Environmental hazar 	SS : Not applicable : Not applicable	
DOT	: Not dangerous goods	
14.1UN number14.2Proper shipping nam14.3Transport hazard cla14.4Packing group14.5Environmental hazar	SS: Not applicable Not applicable	
TDG	: Not dangerous goods	
 14.1 UN number 14.2 Proper shipping nam 14.3 Transport hazard cla 14.4 Packing group 14.5 Environmental hazar 	SS : Not applicable Not applicable	

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	:	Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
REACH - List of substances subject to authorisation (Annex		Not applicable



Ascorbic Acid Solution

Version 3.0	Revision Date 16.12.2021	Print Date 02.01.2025	
XIV)			
Regulation (EC) No 1005/2009 on s ozone layer	ubstances that deplete the	Not applicable	
Regulation (EU) 2019/1021 on pers (recast)	istent organic pollutants	Not applicable	
Seveso III: Directive 2012/18/EU of major-accident hazards involving da	of the Council on the control of		
National regulatory information			
Water hazard class (Germany) : nwg not water endangering Remarks: Classification according to AwSV, Annex 1 (
15.2 Chemical safety assessment not required			

SECTION 16: Other information

Full text of other abbreviations

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ATE -Acute Toxicity Estimate; AwSV - Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen / Ordinance on facilities for handling substances that are hazardous to water; BPR - Biocidal Product Regulation; bw - Body weight; CAS - Chemical Abstract Service; CLP - Classification Labelling Packaging Regulation, Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DNEL-Derived No Effect Level; DOT - Department of Transportation; EC - European Community; ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; EmS (Emergency Response Procedures for Ships Carrying Dangerous Goods); EN - European Standard; ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; EU OEL - European Occupational Exposure Limit; GHS -Globally Harmonized System of Classification and Labelling of Chemicals; GLP - Good Laboratory Practice; GV – Danish Exposure Limits for Substances and Materials; 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: IMDG - International Maritime Dangerous Goods; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); LOFT - Danish Threshold Limit Value; MAK - German Threshold Limit Value; MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NIOSH/Guide - National Institute of Safety and Health Guidebook; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NTP -National Toxicology Program; OECD - Organization for Economic Co-operation and Development; PBT -Persistent, Bioaccumulative and Toxic substance; PEL - Permissible Exposure Limit; PNEC - Predicted no Effect Concentration; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; REL -



Ascorbic Acid Solution

Version 3.0

Revision Date 16.12.2021

Print Date 02.01.2025

Recommended Exposure Limit; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; STEL - Short-Term Exposure Limit; TDG - Transportation of Dangerous Goods; TGG – Dutch Threshold Limit Value; TGV – Swedish OEL; TLV Threshold Limit Value; TLV-C - Threshold Limit Value Ceiling; TWA -Time Weighted Average; UDS - Unscheduled DNA Synthesis; UN - United Nations; VLE - Valeurs limites d'exposition professionnelle aux agents chimiques en France; VME - Valeur (Limite) Moyenne d'Exposition; VOC - Volatile Organic Compound[s]; WEEL - Workplace Environmental Exposure Level; % w/w Percent weight by weight; %(V) Percent Volume

Further information

Date format

dd.mm.yyyy

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

99 / EN

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.