

Kit SDS Cover Sheet KGM BULLETKIT (CC-3101 & CC-4131)

| Version 2.0 | Revision Date 13.12.2018 | Print Date 10.03.2021 |
|---------------------------------|--|-----------------------|
| Product Information | n | |
| Product name Material number | : KGM BULLETKIT (CC-3101 & CC-4131) : CC-3111 | |
| Components | | |
| KBM Basal Mediur | n | SDS attached |
| CC-4131 KGM Si | ngleQuot Kit Suppl&Growth Factors | |
| | BPE Low Protein - non specific | SDS attached |
| | HEGF FOR USE IN KGM KIT | SDS attached |
| | Recombinant human insulin 0.5% | SDS attached |
| | Hydrocortisone solution | SDS attached |
| | GA-1000 | SDS attached |



according to Regulation (EC) No. 1907/2006

KBM Basal Medium

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|---|--|-----------------------|--|--|--|--|--|
| SECTION 1: Identification of the substance/mixture and of the company/undertaking | | | | | | | |
| 1.1 Product identifier Product name | : KBM Basal Medium | | | | | | |
| 1.2 Relevant identified uses of the substance or mixture and uses advised against Use of the Substance/Mixture : For Research Use Only. Not for use in diagnostic procedures. | | | | | | | |
| 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 ² | 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)

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.

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.



according to Regulation (EC) No. 1907/2006

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| SECTION 3: Composition/inforn | nation on ingredients | |
| 3.2 Mixtures | | |
| Components | | |
| Remarks | : No hazardous ingredients | |
| SECTION 4: First aid measures | | |
| 4.1 Description of first aid measure | S | |
| If inhaled | : No special precautions required. | |
| In case of skin contact | : Wash with water and soap as a preca If skin irritation persists, call a physici | |
| In case of eye contact | : Immediately flush eye(s) with plenty of If eye irritation persists, consult a spe | |
| If swallowed | : Immediately give large quantities of v Do not induce vomiting without medic Never give anything by mouth to an u | cal advice. |
| 4.2 Most important symptoms and | effects, both acute and delayed | |
| Symptoms | : No information available. | |
| 4.3 Indication of any immediate me | dical attention and special treatment neede | d |
| Treatment | : No information available. | |
| SECTION 5: Firefighting measu | res | |
| 5.1 Extinguishing media | | |
| Suitable extinguishing media | : Water spray Dry powder Foam | |
| 5.2 Special hazards arising from th | e substance or mixture | |
| Specific hazards during firefightir | ng : Heating or fire can release toxic gas. | |
| | | |
| 5.3 Advice for firefighters | | |
| 5.3 Advice for firefighters Special protective equipment for firefighters | : In the event of fire, wear self-contained | ed breathing apparatus. |



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| SECTION 6: Accidental release mea | su | res |
| 6.1 Personal precautions, protective eq | uip | ment and emergency procedures |
| Personal precautions | : | Use personal protective equipment. |
| 6.2 Environmental precautions | | |
| Environmental precautions | : | Prevent product from entering drains. |
| 6.3 Methods and material for containme | ent | and cleaning up |
| Methods for cleaning up | : | Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in 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 | | |
| Advice on safe handling | : | No special precautions required. |
| Advice on protection against fire and explosion | : | Take precautionary measures against static discharges. |
| Hygiene measures | : | Handle in accordance with good industrial hygiene and safety practice. |
| 7.2 Conditions for safe storage, includi | ng | any incompatibilities |
| | : | No special storage conditions required. |
| containers | | |
| 7.3 Specific end use(s) | | |

Occupational Exposure Limits

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering measures

Avoid splashes.



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| 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 concentration of the dangerous subs No special protective equipment requ | tance at the work place. |
| Respiratory protection | : No personal respiratory protective ec required. | quipment normally |

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| Appearance | : | Aqueous solution |
|--|---|-------------------|
| Colour | : | red |
| Odour | : | no data available |
| Odour Threshold | : | no data available |
| рН | : | 7,25 - 7,65 |
| Freezing point | : | no data available |
| Boiling point/boiling range | : | no data available |
| Flash point | : | does not flash |
| Evaporation rate | : | no data available |
| Flammability (solid, gas) | : | no data available |
| Upper explosion limit | : | no data available |
| Lower explosion limit | : | no data available |
| Vapour pressure | : | no data available |
| Relative vapour density | : | no data available |
| Relative density | : | no data available |
| Density | : | no data available |
| Solubility(ies) Water solubility | : | soluble |
| Partition coefficient: n-octanol/water | : | no data available |



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| Auto-ignition temperature | : | no data available | |
| Decomposition temperature | : | no data available | |
| Viscosity | : | no data available | |
| Explosive properties | : | no data available | |
| Oxidizing properties | : | no data available | |
| 9.2 Other information | | | |
| no data available | | | |
| SECTION 10: Stability and react 10.1 Reactivity Stable under recommended store | - | iditions. | |
| 10.2 Chemical stability Stable under normal conditions. | | | |
| 10.3 Possibility of hazardous reacti | ons | | |
| 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 pro No decomposition if stored norma | | | |
| SECTION 11: Toxicological info | rmatio | n | |
| 11.1 Information on toxicological ef | fects | | |
| Further information | | Remarks: No data is available on the produc | ct itself. |
| SECTION 12: Ecological informa | ation | | |
| 12.1 Toxicity | | | |
| Toxicity to fish | : | Remarks: no data available | |
| 12.2 Persistence and degradability | | | |
| Biodegradability | : | Result: no data available | |
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|--|--|---|---------------------------------|
| 12.3 Bi | ioaccumulative potential | | |
| Bi | oaccumulation | : Remarks: no data available | |
| 12 4 M | obility in soil | | |
| | • | : Remarks: no data available | |
| | stribution among environmental mpartments | | |
| 12.5 Re | esults of PBT and vPvB assess | nent | |
| Assessment | | : This substance/mixture contains be either persistent, bioaccumul persistent and very bioaccumula higher. | lative and toxic (PBT), or very |
| 12.6 Ot | ther adverse effects | | |
| Ac | dditional ecological information | : no data available | |
| | | | |
| SECTI | ION 13: Disposal consideration | ons | |
| | | | |
| 13.1 W | aste treatment methods | | |
| Pr | oduct | Dianaga of in appardance with k | |
| | | : Dispose of in accordance with lo | ocal regulations. |
| | ION 14: Transport informatio | | ocal regulations. |
| SECTI IATA | ION 14: Transport informatio | n Not dangerous goods | ocal regulations. |
| SECTI | ION 14: Transport informatio | n Not dangerous goods : Not applicable | ocal regulations. |
| SECTI IATA 14.1 | ION 14: Transport informatio | n Not dangerous goods | ocal regulations. |
| SECTI IATA 14.1 14.2 14.3 14.4 | ION 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group | n Not dangerous goods : Not applicable : Not applicable | ocal regulations. |
| SECTI IATA 14.1 14.2 14.3 | ION 14: Transport informatio UN number Proper shipping name Transport hazard class | n Not dangerous goods : Not applicable : Not applicable : Not applicable : Not applicable | ocal regulations. |
| SECTI IATA 14.1 14.2 14.3 14.4 | ION 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group Environmental hazards | n Not dangerous goods : Not applicable : Not applicable : Not applicable : Not applicable : Not applicable | ocal regulations. |
| SECTI IATA 14.1 14.2 14.3 14.4 14.5 | ION 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group Environmental hazards | n Not dangerous goods : Not applicable : Not applicable : Not applicable : Not applicable : no Not dangerous goods | ocal regulations. |
| SECTI IATA 14.1 14.2 14.3 14.4 14.5 IMDG | ION 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name | n Not dangerous goods : Not applicable : Not applicable : Not applicable : Not applicable : no | ocal regulations. |
| SECTI 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 | ION 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class | n Not dangerous goods Not applicable Not applicable Not applicable Not applicable no Not dangerous goods Not dangerous goods | ocal regulations. |
| SECTI 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 14.4 | ION 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class Packing group | n Not dangerous goods Not applicable Not applicable Not applicable Not applicable no Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable | ocal regulations. |
| SECTI IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 | ION 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class | n Not dangerous goods Not applicable Not applicable Not applicable Not applicable no Not dangerous goods Not dangerous goods | ocal regulations. |
| SECTI IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 14.4 | ION 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class Packing group | n Not dangerous goods Not applicable Not applicable Not applicable Not applicable no Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable | ocal regulations. |
| SECTI IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 14.4 14.5 ADR | ION 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class Packing group Environmental hazards | n Not dangerous goods Not applicable Not applicable Not applicable Not applicable no Not dangerous goods Not applicable Not applicable | ocal regulations. |
| SECTI IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 14.4 14.5 | ION 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class Packing group Environmental hazards | n Not dangerous goods Not applicable Not applicable Not applicable Not applicable no Not dangerous goods Not applicable Not dangerous goods Not dangerous goods | ocal regulations. |
| SECTI IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 14.4 14.5 ADR 14.1 | ION 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class Packing group Environmental hazards | n Not dangerous goods Not applicable Not applicable Not applicable Not applicable no Not dangerous goods Not applicable Not applicable | ocal regulations. |
| SECTI IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 14.4 14.5 ADR 14.1 14.2 | ION 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class Packing group Environmental hazards | n Not dangerous goods Not applicable Not applicable Not applicable Not applicable no Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not dangerous goods Not dangerous goods Not dangerous goods | ocal regulations. |



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| RID | | : 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 | |
| DOT | | : 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 | |
| TDG | | : 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 | |
| 14.6 | Special precautions for user | : none | |
| 14.7 | Transport in bulk according to Annex II of Marpol and the IBC Code | : Not applicable | |

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 XIV) | : | Not applicable |
| Regulation (EC) No 1005/2009 on substances that deplete the ozone layer | : | Not applicable |
| Regulation (EC) No 850/2004 on persistent organic pollutants | : | Not applicable |
| Seveso III: Directive 2012/18/EU of the European Parliament and | nd c | of the Council on the cont |

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



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| National regulatory information | | |
| Water contaminating class (Germany) | : WGK 1 slightly hazardous to water Classification according to AwSV, An | nex 1 (5.2) |
| 15.2 Chemical safety assessment | | |
| | | |

not required

SECTION 16: Other information

Further 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 -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

Date format

dd.mm.yyyy

Ref. / 00000027335



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Version 2.0

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Print Date 10.03.2021

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.

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

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Hydrocortisone solution

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|---|--|-----------------------|--|--|--|--|
| SECTION 1: Identification of the substance/mixture and of the company/undertaking | | | | | | |
| 1.1 Product identifier | | | | | | |
| Product name | : Hydrocortisone solution | | | | | |
| 1.2 Relevant identified uses of the substance 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 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)

Flammable liquids, Category 2 Eye irritation, Category 2

H225: Highly flammable liquid and vapour. H319: Causes serious eye irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms





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Hydrocortisone solution

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| Signal word | : Danger | |
| Hazard statements | : H225 Highly flammable liquid and v H319 Causes serious eye irritation. | • |
| Precautionary statements | Prevention: | |
| | P210 Keep away from heat, hot surflames and other ignition sources. No P233 Keep container tightly closed P280 Wear protective gloves/ protection/ face protection. | smoking. |
| | Response: | |
| | P303 + P361 + P353 IF ON SKIN (immediately all contaminated clothing P337 + P313 If eye irritation persist attention. P370 + P378 In case of fire: Use du alcohol-resistant foam to extinguish. | g. Rinse skin with water. ts: Get medical advice/ |

2.3 Other hazards

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

| Chemical name | CAS-No. EC-No. Index-No. REACH Registration Number | Classification | Concentration (% w/w) |
|---------------|--|--|--------------------------|
| Ethanol | 64-17-5 603-002-00-5 01-2119457610-43-XX XX | Flam. Liq. 2; H225 Eye Irrit. 2; H319 | >= 90 - <= 100 |

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

| If inhaled | : Remove to fresh air. If breathing is irregular or stopped, admirespiration. | nister artificial |
|----------------------------|--|------------------------|
| In case of skin contact | : After contact with skin, wash immediate and water. | ly with plenty of soap |
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| | | Consult a physician. | |
| In case of eye contact | : | In the case of contact with eyes, rinse in of water and seek medical advice. Call a physician immediately. | mmediately with plenty |
| If swallowed | : | If accidentally swallowed obtain immediate Clean mouth with water and drink after Do not induce vomiting without medical Never give anything by mouth to an unc | wards plenty of water. advice. |
| 4.2 Most important symptoms and effe | ects, | both acute and delayed | |
| Symptoms | : | No information available. | |
| 4.3 Indication of any immediate medicate | al at | tention and special treatment needed | |
| Treatment | : | No information available. | |
| SECTION 5: Firefighting measures | | | |
| 5.1 Extinguishing media | | | |
| Suitable extinguishing media | : | Dry powder Water spray Foam | |
| 5.2 Special hazards arising from the su | ubst | ance or mixture | |
| Specific hazards during firefighting | : | Heating or fire can release toxic gas. | |
| 5.3 Advice for firefighters | | | |
| Special protective equipment for firefighters | : | In the event of fire, wear self-contained | breathing apparatus. |
| Further information | : | Use water spray to cool unopened cont | ainers. |
| SECTION 6: Accidental release me | asu | res | |
| 6.1 Personal precautions, protective e | quip | ment and emergency procedures | |
| Personal precautions | : | Use respirator when performing operati exposure to vapour of the product. | ons involving potential |
| 6.2 Environmental precautions | | | |
| Environmental precautions | : | Prevent product from entering drains. | |
| 6.3 Methods and material for containm | nent | and cleaning up | |
| Methods for cleaning up | : | Contain spillage, soak up with non-com material, (e.g. sand, earth, diatomaceou and transfer to a container for disposal national regulations (see section 13). | us earth, vermiculite) |



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Hydrocortisone solution

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| 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 | : | Provide sufficient air exchange and/or e Avoid contact with skin and eyes. | exhaust in work rooms. |
| Advice on protection against fire and explosion | : | Highly flammable. Keep away from sou smoking. Take precautionary measures discharges. | |
| Hygiene measures | : | Avoid contact with skin, eyes and clothin breaks and immediately after handling t | |
| 7.2 Conditions for safe storage, includin | ng | any incompatibilities | |
| Requirements for storage areas and containers | : | Keep away from sources of ignition - No containers tightly closed in a cool, well- | |
| 7.3 Specific end use(s) | | | |
| Specific use(s) | | No information available | |

Specific use(s)

: No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Countries not listed may have their own country specific values.

Occupational Exposure Limits

Switzerland

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|------------|---------|-------------------------------|--------------------------|-------|
| Ethanol | 64-17-5 | TWA | 500 ppm 960 mg/m3 | SMAK |
| | | STEL | 1 000 ppm 1 920 mg/m3 | SMAK |

Germany

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|----------------------------------|---------|-------------------------------|------------------------|----------|
| Ethanol | 64-17-5 | | 500 ppm 960 mg/m3 | TRGS 900 |
| Peak-limit: excursion (category) | factor | Peak-limit: excursion | on factor (category) 2 | |
| | | MAK | 200 ppm 380 mg/m3 | DFG MAK |
| Peak-limit: excursion | factor | Peak-limit: excursion | on factor (category) 4 | |



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|------------|---------|-------------------------------|--------------------------|---------|
| (category) | | | | |
| Belgium | | | | |
| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
| Ethanol | 64-17-5 | TWA | 1 000 ppm 1 907 mg/m3 | BE/OEL |
| Denmark | | | | |
| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
| Ethanol | 64-17-5 | GV | 1 000 ppm 1 900 mg/m3 | GV (DK) |

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|------------|---------|----------------------------------|--------------------------|-------|
| Ethanol | 64-17-5 | VLE | 5 000 ppm 9 500 mg/m3 | FVL |
| | | VME | 1 000 ppm 1 900 mg/m3 | FVL |

Italy

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|------------|---------|----------------------------------|--------------------|----------|
| Ethanol | 64-17-5 | STEL | 1 000 ppm | OEL (IT) |

Netherlands

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|------------|---------|-------------------------------|--------------------|--------|
| Ethanol | 64-17-5 | TGG | 260 mg/m3 | NL OEL |
| | | TGG 15 | 1 900 mg/m3 | NL OEL |

Spain

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|------------|---------|-------------------------------|--------------------------|-------|
| Ethanol | 64-17-5 | STEL | 1 000 ppm 1 910 mg/m3 | VLA |

Sweden

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|------------|---------|-------------------------------|--------------------------|-------|
| Ethanol | 64-17-5 | TWA | 500 ppm 1 000 mg/m3 | SWO |
| | | STEL | 1 000 ppm 1 900 mg/m3 | SWO |

United Kingdom

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|------------|---------|----------------------------------|--------------------------|----------|
| Ethanol | 64-17-5 | TWA | 1 000 ppm 1 920 mg/m3 | EH40 WEL |



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Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

| Substance name | End Use | Exposure routes | Potential health effects | Value |
|----------------|-----------|-----------------|-------------------------------|------------|
| Ethanol | Workers | Inhalation | Acute local effects | 1900 mg/m3 |
| | Consumers | Oral | Long-term systemic effects | 87 mg/kg |
| | Consumers | Dermal | Long-term systemic effects | 206 mg/kg |
| | Consumers | Inhalation | Acute local effects | 950 mg/m3 |
| | Consumers | Inhalation | Long-term systemic effects | 114 mg/m3 |
| | Workers | Inhalation | Long-term systemic effects | 950 mg/m3 |
| | Workers | Dermal | Long-term systemic effects | 343 mg/kg |

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

| Substance name | Environmental Compartment | Value |
|----------------|---------------------------|------------|
| Ethanol | Fresh water | 0,96 mg/l |
| | Soil | 0,63 mg/kg |
| | Fresh water sediment | 3,6 mg/kg |
| | Marine water | 0,79 mg/l |
| | Sewage treatment plant | 580 mg/l |
| | Oral | 720 mg/l |
| | Intermittent use/release | 2,75 mg/l |

8.2 Exposure controls

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

| Eye protection: Tightly fitting safety gogglesHand protection Material: Nitrile rubber > 480 minRate of permeability: > 480 minSkin 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: In the case of vapour formation use a respirator with an approved filter. Respirator with a vapour filter (EN 141) Respirator with ABEK filter. | r croonar protective equipment | |
|---|--------------------------------|---|
| Material Rate of permeability:Nitrile rubber :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:In the case of vapour formation use a respirator with an approved filter. Respirator with a vapour filter (EN 141) | Eye protection | : Tightly fitting safety goggles |
| concentration of the dangerous substance at the work place. No special protective equipment required. Respiratory protection : In the case of vapour formation use a respirator with an approved filter. Respirator with a vapour filter (EN 141) | Material | |
| approved filter. Respirator with a vapour filter (EN 141) | Skin and body protection | concentration of the dangerous substance at the work place. |
| | Respiratory protection | · · · |
| | | |
| | | |

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| Appearance | : | liquid |
|------------|---|------------|
| Colour | : | colourless |



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|--|---|---|-----------------------|
| Odour | : | alcohol-like | |
| Odour Threshold | : | no data available | |
| рН | : | no data available | |
| Melting point/range | : | -114,5114 °C Information refers to the main component. | |
| Boiling point/boiling range | : | 78 °C Information refers to the main component. | |
| Flash point | : | 12 °C Information refers to the main component. | |
| Evaporation rate | : | no data available | |
| Flammability (solid, gas) | : | no data available | |
| Upper explosion limit | : | 15,0 %(V) Information refers to the main component. | |
| Lower explosion limit | : | 3,5 %(V) Information refers to the main component. | |
| Vapour pressure | : | no data available | |
| Relative vapour density | : | no data available | |
| Relative density | : | no data available | |
| Density | : | 0,79 g/cm3 (20 °C) | |
| Solubility(ies) Water solubility | : | completely miscible | |
| Partition coefficient: n-octanol/water | : | no data available | |
| Auto-ignition temperature | : | no data available | |
| Decomposition temperature | : | no data available | |
| Viscosity Viscosity, dynamic | : | 1,17 - 1,2 mPa.s (20 °C) | |
| Explosive properties | : | no data available | |
| Oxidizing properties | : | no data available | |

9.2 Other information

no data available



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|---|--|------------------------|
| SECTION 10: Stability and reactivit | / | |
| 10.1 Reactivity | | |
| Stable under recommended storage | conditions. | |
| 10.2 Chemical stability Stable under normal conditions. | | |
| 10.3 Possibility of hazardous reactions | | |
| Hazardous reactions | : Stable under normal condition | S. |
| 10.4 Conditions to avoid | | |
| Conditions to avoid | : Keep away from heat and sour | rces of ignition. |
| 10.5 Incompatible materials | | |
| Materials to avoid | : Strong oxidizing agents | |
| 10.6 Hazardous decomposition produc | ts | |
| Carbon dioxide (CO2) | | |
| Carbon monoxide No decomposition if stored normally. | | |
| Further information | | |
| | Remarks: No data is available | on the product itself. |
| The following toxicological data refer t |) : | |
| Ethanol (CAS-No.: 64-17-5) | | |
| Acute toxicity | | |
| Acute oral toxicity | : LD50 (Rat): > 5 000 mg/kg | |
| Skin corrosion/irritation | | |
| | Species: Rabbit Result: Mild skin irritation | |
| Serious eye damage/eye irritation | | |
| | Species: Rabbit | |
| | Assessment: Mild eye irritation Result: Moderate eye irritation | |
| Respiratory or skin sensitisation | | |
| | Exposure routes: Dermal Species: Guinea pig | |
| Ref. 46155.1 / 000000010146 | SDK EU/EN | Page 18 (6 |



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|---------------------------------------|--|-----------------------|
| | Method: OECD Test Guideline 406 Result: Did not cause sensitisation on | laboratory animals. |
| Germ cell mutagenicity | | |
| Suspected of causing genetic defects. | | |
| Genotoxicity in vitro : | Test Type: Ames test Result: negative | |
| : | Test Type: gene mutation test Species: mouse lymphoma cells Result: negative | |
| Reproductive toxicity | | |
| Effects on fertility : | Species: Mouse Application Route: Oral Method: OECD Test Guideline 416 | |

SECTION 12: Ecological information

| 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 assess | nent | |
| Assessment | : This substance/mixture contains no components considered be either persistent, bioaccumulative and toxic (PBT), or ve persistent and very bioaccumulative (vPvB) at levels of 0.19 higher. | ery |
| 12.6 Other adverse effects | | |
| Additional ecological information | : No data is available on the product itself. | |

SECTION 13: Disposal considerations

13.1 Waste treatment methods



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|------------------------------|---|---|-----------------------|
| Product | | Dispose of in accordance with local reg Contact waste disposal services. | ulations. |
| Co | ontaminated packaging | : Dispose of as unused product. | |
| SECT | ION 14: Transport information | | _ |
| ΙΑΤΑ | | | |
| 14.1 14.2 14.3 14.4 | UN number Proper shipping name Transport hazard class Packing group Labels | : 1170 : Ethanol solution : 3 : II : 3 | |
| 14.5 | Environmental hazards | : no | |
| IMDG | | | |
| 14.1 14.2 14.3 14.4 | UN number Proper shipping name Transport hazard class Packing group Labels EmS Number 1 EmS Number 2 | : 1170 : Ethanol solution : 3 : II : 3 : F-E : S-D | |
| 14.5 | Environmental hazards | : Marine pollutant: no | |
| ADR | | | |
| 14.1 14.2 14.3 14.4 | UN number Proper shipping name Transport hazard class Packing group Classification Code Hazard Identification Number Labels | : 1170 : ETHANOL SOLUTION : 3 : II : F1 : 33 : 3 | |
| 14.5 | Environmental hazards | : no | |
| RID | | | |
| 14.1 14.2 14.3 14.4 | UN number Proper shipping name Transport hazard class Packing group Classification Code Hazard Identification Number Labels | : 1170 : ETHANOL SOLUTION : 3 : II : F1 : 33 : 3 | |
| 14.5 | Environmental hazards | : 0 : no | |
| | | | |



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Hydrocortisone solution

| Versior | n 2.0 | Revision Date 13.12.2018 | Print Date 10.03.2021 |
|--------------------------------------|--|--|-----------------------|
| DOT | | | |
| 14.1 14.2 14.3 14.4 | UN number Proper shipping name Transport hazard class Packing group Labels Emergency Response Guidebook Number | : 1170 : Ethanol solutions : 3 : II : 3 : 127 | |
| 14.5 | Environmental hazards | : no | |
| TDG | | | |
| 14.1 14.2 14.3 14.4 14.5 | UN number Proper shipping name Transport hazard class Packing group Labels Environmental hazards | : 1170 : ETHANOL SOLUTION : 3 : II : 3 : no | |
| 14.6 | Special precautions for user | : none | |
| 14.7 | Transport in bulk according to Annex II of Marpol and the IBC Code | : Not applicable | |

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 (EC) No 850/2004 on persistent organic pollutants : Not applicable

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

| | | Quantity | Quantity 2 |
|-----|-------------------|----------|------------|
| P5c | FLAMMABLE LIQUIDS | 5 000 t | 50 000 t |

National regulatory information

| Water contaminating class | : WGK 1 slightly hazardous to water |
|---------------------------|-------------------------------------|
|---------------------------|-------------------------------------|



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|--|----------|---|-----------------------|
| (Germany) | | Code Number: 96 Remarks: The rating refers to pure eth must be classified in accordance with A AwSV. | |
| 15.2 Chemical safety ass not required | essment | | |
| SECTION 16: Other inf | ormation | | |
| Classification of the | mixture: | Classification proc | cedure: |
| Flam. Liq. 2 | H225 | Based on product d assessment | ata or |
| Eye Irrit. 2 | H319 | Calculation method | |
| Full text of H-Statem | ents | | |
| H225 H319 | : | Highly flammable liquid and vapour. Causes serious eye irritation. | |

Further 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 -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:



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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

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.

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| Version 2.0 | Revision Date 13.12.2018 | Print Date 10.03.2021 |
|---|--|-----------------------|
| SECTION 1: Identification of the s | ubstance/mixture and of the company/u | ndertaking |
| 1.1 Product identifier | | |
| Product name | : GA-1000 | |
| 1.2 Relevant identified uses of the su | bstance or mixture and uses advised agains | st |
| Use of the Substance/Mixture | : Scientific research and development | |
| 1.3 Details of the supplier of the safe | v 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. |

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)



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| Hazard pictograms | | |
| Signal word | : Danger | |
| Hazard statements | : H317 May cause an allergic skin rea H334 May cause allergy or asthma s difficulties if inhaled. | |
| Precautionary statements | Prevention: P261 Avoid breathing dust/ fume/ ga P280 Wear protective gloves. P284 Wear respiratory protection. Response: | ıs/ mist/ vapours/ spray. |
| | P304 + P340 IF INHALED: Remove keep comfortable for breathing. P333 + P313 If skin irritation or rash advice/ attention. P342 + P311 If experiencing respirat POISON CENTER/doctor. | 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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

| Chemical name | CAS-No. | Classification | Concentration |
|----------------------------|--------------------|---------------------|---------------|
| | EC-No. | | (% w/w) |
| | Index-No. | | |
| | REACH Registration | | |
| | Number | | |
| Gentamicin, sulfate (salt) | 1405-41-0 | Resp. Sens. 1; H334 | >= 3 - < 5 |
| | | Skin Sens. 1; H317 | |

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.



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|--------------|--|--|
| | | |
| | | |
| | | desisistas artificial |
| | | dminister artificial |
| | | |
| | - | lately with plenty of soap |
| | | |
| Get r | nedical attention if irritation deve | elops and persists. |
| : In the | e case of contact with eyes, rins | e immediately with plenty |
| | | 1 - 11 - 4 |
| If eye | irritation persists, consult a spe | ecialist. |
| | | |
| | | |
| | | unconscious person. |
| | | |
| - | • | |
| | | |
| | | |
| | • | ed |
| : Treat | symptomatically. | |
| es | | |
| | | |
| : Not c | ombustible. | |
| | | |
| circu | nstances and the surrounding e | environment. |
| substance of | or mixture | |
| g : Heati | ng or fire can release toxic gas. | |
| | | |
| | | |
| · In the | event of fire wear self-contain | ed breathing apparatus |
| : In the | e event of fire, wear self-contain | ed breathing apparatus. |
| | Call a If brearespin : After and v Wash Get n : In the of wa If eye : Imme Do no Neve Take effects, both a : Allerg sensi dical attention : Treat es : Not c Use e circur | : Not combustible. Use extinguishing measures that are circumstances and the surrounding e e substance or mixture |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

| - | | |
|----------------------|---|--|
| Personal precautions | : Use respirator when performing operations involving potential | |
| | exposure to vapour of the product. | |



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| | | Refer to protective measures listed in | n sections 7 and 8. |
| 6.2 Environmental precautions | | | |
| Environmental precautions | : | No special environmental precaution | s required. |
| 6.3 Methods and material for containme | ent | 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). | | eous earth, vermiculite) al according to local / |
| 6.4 Reference to other sections | | | |
| For personal protection see section 8 | | | |
| SECTION 7: Handling and storage | | | |
| 7.1 Precautions for safe handling | | | |
| 7.1 Precautions for safe handling Advice on safe handling | : | In case of insufficient ventilation, wea equipment. Avoid exposure - obtain special instru Use only in area provided with appro Avoid contact with skin and eyes. | uctions before use. |
| - | : | equipment. Avoid exposure - obtain special instru Use only in area provided with appro Avoid contact with skin and eyes. | uctions before use. |
| Advice on protection against fire and | : | equipment. Avoid exposure - obtain special instru Use only in area provided with appro Avoid contact with skin and eyes. | uctions before use. priate exhaust ventilation. n and the eyes. Avoid ands before breaks and |
| Advice on safe handling Advice on protection against fire and explosion | : | equipment. Avoid exposure - obtain special instru Use only in area provided with appro Avoid contact with skin and eyes. Stable under normal conditions. DANGER! Avoid contact with the skin breathing dust or spray mist. Wash h immediately after handling the produc | uctions before use. priate exhaust ventilation. n and the eyes. Avoid ands before breaks and |
| Advice on safe handling Advice on protection against fire and explosion Hygiene measures | : ng | equipment. Avoid exposure - obtain special instru Use only in area provided with appro Avoid contact with skin and eyes. Stable under normal conditions. DANGER! Avoid contact with the skin breathing dust or spray mist. Wash h immediately after handling the produ- any incompatibilities | uctions before use. priate exhaust ventilation. n and the eyes. Avoid ands before breaks and |
| Advice on safe handling Advice on protection against fire and explosion Hygiene measures 7.2 Conditions for safe storage, includin Requirements for storage areas and | : ng | equipment. Avoid exposure - obtain special instru Use only in area provided with appro Avoid contact with skin and eyes. Stable under normal conditions. DANGER! Avoid contact with the skin breathing dust or spray mist. Wash h immediately after handling the produ- any incompatibilities | uctions before use. priate exhaust ventilation. n and the eyes. Avoid ands before breaks and |

8.1 Control parameters

Occupational Exposure Limits

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.



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|-------------------------------|---|---------------------------|
| Personal protective equipment | | |
| Eye protection | : Safety glasses Safety goggles | |
| Hand protection | | |
| Material | : Nitrile rubber | |
| Rate of permeability | : > 480 min | |
| Skin and body protection | : Choose body protection according t concentration of the dangerous sub Complete suit protecting against ch | stance at the work place. |
| Respiratory protection | : In case of mist, spray or aerosol ex personal respiratory protection and | • |
| | Respirator with ABEK filter. Respirator with combination filter fo 141) | r vapour/particulate (EN |

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| Appearance | : | Aqueous solution |
|-----------------------------|---|------------------------------|
| Colour | : | light yellow |
| Odour | : | odourless |
| Odour Threshold | : | no data available |
| рН | : | no data available |
| Freezing point | : | D° 0 |
| Boiling point/boiling range | : | no data available |
| Flash point | : | Does not sustain combustion. |
| Evaporation rate | : | no data available |
| Flammability (solid, gas) | : | no data available |
| Upper explosion limit | : | no data available |
| Lower explosion limit | : | no data available |
| Vapour pressure | : | no data available |
| Relative vapour density | : | no data available |
| Relative density | : | no data available |
| Solubility(ies) | | |
| | | |



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|--|----------|--|----------------------|
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| Water solubility | : | soluble | |
| Partition coefficient: n-octanol/water | : | no data available | |
| Auto-ignition temperature | : | no data available | |
| Decomposition temperature | : | no data available | |
| Viscosity | : | no data available | |
| Explosive properties | : | no data available | |
| Oxidizing properties | : | no data available | |
| 9.2 Other information | | | |
| no data available | | | |
| SECTION 10: Stability and reactivity | y | | |
| | | | |
| 10.1 Reactivity | | | |
| Stable under recommended storage | con | 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 produc | ts | | |
| Nitrogen oxides (NOx) | | | |
| Carbon dioxide (CO2) | | | |
| Carbon monoxide | | | |
| SECTION 11: Toxicological informa | tio | n | |
| 11.1 Information on toxicological effect | ts | | |
| Further information | | | |
| | | Remarks: No data is available on the produ | ict itself. |
| SECTION 12: Ecological information | <u> </u> | | |
| SECTION 12: Ecological information | 11 | | |
| | | | |

- 12.1 Toxicity
 - Toxicity to fish

Ref. 46041.1 / 000000010126

: Remarks: no data available



according to Regulation (EC) No. 1907/2006

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|---|--|--------------------------------|
| | | |
| 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 assessi | nent | |
| Assessment | : This substance/mixture contains be either persistent, bioaccumula persistent and very bioaccumula higher. | ative and toxic (PBT), or very |
| 12.6 Other adverse effects | | |
| Additional ecological information | : No data is available on the produ | uct itself. |
| SECTION 13: Disposal consideration | ons | |
| 13.1 Waste treatment methods | | |
| Product | : Dispose of in accordance with lo | cal regulations. |
| Contaminated packaging | : Dispose of as unused product. | |
| SECTION 14: Transport informatio | 1 | |
| ΙΑΤΑ | Not dangerous goods | |
| 14.1 UN number | : Not applicable | |
| 14.2 Proper shipping name | : Not applicable | |
| 14.3 Transport hazard class 14.4 Packing group | : Not applicable : Not applicable | |
| 14.5 Environmental hazards | : no | |

IMDG

| 14.1 14.2 14.3 | UN number Proper shipping name Transport hazard class | Not applicableNot applicableNot applicable |
|----------------------|---|--|
| 14.4 14.5 | Packing group Environmental hazards | : Not applicable : Not applicable : Marine pollutant: no |

Not dangerous goods



according to Regulation (EC) No. 1907/2006

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|---------|---|--------------------------|-----------------------|
| ADR | | : 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 | |
| RID | | : 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 | |
| DOT | | : 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 | |
| TDG | | : 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 | |
| 14.6 | Special precautions for user | : none | |
| 14.7 | Transport in bulk according to Annex II of Marpol and the IBC Code | : Not applicable | |

SECTION 15: Regulatory information

| 15.1 Safety, health and environmental regulations/legislation sp | beci | ific 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 XIV) | : | Not applicable |



according to Regulation (EC) No. 1907/2006

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|------------------------------------|---------------------------|--|-------------------------------|
| Regulation (EC) No 10 ozone layer | 005/2009 on substances | that deplete the : Not applic | able |
| Regulation (EC) No 8 | 50/2004 on persistent org | anic pollutants : Not applic | able |
| | s involving dangerous su | an Parliament and of the Coun ubstances. applicable | cil on the control of |
| National regulatory ir | formation | | |
| Water contaminating ((Germany) | | 1 slightly hazardous to water sification according to AwSV, A | nnex 1 (5.2) |
| 15.2 Chemical safety ass | essment | | |
| not required | | | |
| SECTION 16: Other inf | ormation | | |
| Classification of the | mixture: | Classification pr | rocedure: |
| Resp. Sens. 1 | H334 | Calculation metho | od |
| Skin Sens. 1 | H317 | Calculation metho | od |
| Full text of H-Statem | ents | | |
| H317 | | cause an allergic skin reaction. | |
| H334 | : May o | cause allergy or asthma sympto | oms or breathing difficulties |

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Further 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

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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

Date format

dd.mm.yyyy

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

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according to Regulation (EC) No. 1907/2006

Recombinant human insulin 0.5%

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|---|--|-----------------------|
| SECTION 1: Identification of the subst | ance/mixture and of the company/unde | ertaking |
| 1.1 Product identifier | | |
| Product name : | Recombinant human insulin 0.5% | |
| 1.2 Relevant identified uses of the substar | nce or mixture and uses advised against | |
| Use of the Substance/Mixture : | Scientific research and development | |
| 1.3 Details of the supplier of the safety dat | ta sheet | |
| | 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)

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.

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.



according to Regulation (EC) No. 1907/2006

Recombinant human insulin 0.5%

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|--|--|----------------------|
| Insulin: may cause hypoglycaemia. Insulin is inactivated in the gastro-in | testinal tract when ingested. | |
| SECTION 3: Composition/informat | ion on ingredients | |
| 3.2 Mixtures | | |
| Components | | |
| Remarks | : No hazardous ingredients | |
| SECTION 4: First aid measures | | |
| I.1 Description of first aid measures | | |
| If inhaled | : No special precautions required. | |
| In case of skin contact | : Wash with water and soap as a precau If skin irritation persists, call a physiciar | |
| In case of eye contact | : Immediately flush eye(s) with plenty of If eye irritation persists, consult a specia | |
| If swallowed | : Immediately give large quantities of wa Do not induce vomiting without medical Never give anything by mouth to an un | l advice. |
| 4.2 Most important symptoms and effo | ects, both acute and delayed | |
| Symptoms | : No information available. | |
| 4.3 Indication of any immediate medic | al attention and special treatment needed | |
| Treatment | : No information available. | |
| SECTION 5: Firefighting measures | | |
| 5.1 Extinguishing media | | |
| Suitable extinguishing media | : Water spray Dry powder | |
| | Foam | |
| 5.2 Special hazards arising from the s | ubstance or mixture | |
| Specific hazards during firefighting | : Heating or fire can release toxic gas. | |
| 5.3 Advice for firefighters | | |
| Special protective equipment for firefighters | : In the event of fire, wear self-contained | breathing apparatus. |
| Further information | : Use water spray to cool unopened cont | tainers. |
| Ref. 45004.4 / 000000015292 | SDK_EU / EN | Page 35 (6 |



according to Regulation (EC) No. 1907/2006

Recombinant human insulin 0.5%

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|---|-----|---|---------------------------|
| SECTION 6: Accidental release mea | su | res | |
| | | | |
| 6.1 Personal precautions, protective eq | uip | | |
| Personal precautions | : | Use personal protective equipment. | |
| 6.2 Environmental precautions | | | |
| Environmental precautions | : | No special environmental precautions | required. |
| 6.3 Methods and material for containme | ent | and cleaning up | |
| Methods for cleaning up | : | Wipe up with absorbent material (e.g. Dispose of in accordance with local re | |
| 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 | : | No special precautions required. | |
| Hygiene measures | : | Handle in accordance with good indus practice. | strial hygiene and safety |
| 7.2 Conditions for safe storage, includi | ng | any incompatibilities | |
| Requirements for storage areas and containers | : | No special storage conditions required | d. |
| 7.3 Specific end use(s) | | | |
| Specific use(s) | : | No information available. | |
| SECTION 8: Exposure controls/pers | or | al protection | |
| 8.1 Control parameters | | | |
| Occupational Exposure Limits | | | |
| Contains no substances with occ | 201 | ational exposure limit values | |

8.2 Exposure controls

Engineering measures

Use only in area provided with appropriate exhaust ventilation.

Personal protective equipment



according to Regulation (EC) No. 1907/2006

Recombinant human insulin 0.5%

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|---|--|-------------------------|
| 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 concentration of the dangerous substa No special protective equipment requ | ance at the work place. |
| Respiratory protection | : No personal respiratory protective equired. | uipment normally |

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | Appearance | ner : | Aqueous solution |
|-------------|--|----------|--------------------|
| | Colour | : | colourless |
| | Odour | : | odourless |
| | Odour Threshold | : | no data available |
| | рН | : | 2 - 4 |
| | Freezing point | : | no data available |
| | Boiling point/boiling range | : | no data available |
| | Flash point | : | Water |
| | Evaporation rate | : | no data available |
| | Flammability (solid, gas) | : | no data available |
| | Upper explosion limit | : | no data available |
| | Lower explosion limit | : | no data available |
| | Vapour pressure | : | no data available |
| | Relative vapour density | : | no data available |
| | Relative density | : | no data available |
| | Density | : | no data available |
| | Solubility(ies) Water solubility | : | completely soluble |
| | Partition coefficient: n-octanol/water | : | no data available |
| | Auto-ignition temperature | : | no data available |
| Ref. 4 ° | 5004.4 / 000000015292 | S | SDK_EU/EN |



according to Regulation (EC) No. 1907/2006

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| Decomposition temperature | : | no data available | |
| Viscosity | : | no data available | |
| Explosive properties | : | no data available | |
| Oxidizing properties | : | no data available | |
| 9.2 Other information no data available | | | |
| SECTION 10: Stability and reactivi | ty | | |
| 10.1 Reactivity Stable under recommended storage 10.2 Chemical stability | e cor | ditions. | |
| Stable under normal conditions. | | | |
| 10.3 Possibility of hazardous reaction Hazardous reactions | is : | 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 | | | |
| SECTION 11: Toxicological inform | atio | n | |
| 11.1 Information on toxicological effe | cts | | |
| Skin corrosion/irritation | | Assessment: No skin irritation | |
| Serious eye damage/eye irritatior | ו | Assessment: No eye irritation | |
| Further information | | Remarks: No data is available on the produ | ct itself. |
| | | Remarks: Insulin: may cause hypoglycaemi Insulin is inactivated in the gastro-intestinal ingested. May cause central nervous system depress May induce sweating, pallor or visual distur | tract when ion. |



according to Regulation (EC) No. 1907/2006

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|---|-----------|---|----------------------------|
| | | | |
| SECTION 12: Ecological information | n | | |
| 12.1 Toxicity | | | |
| Toxicity to fish | : Remark | s: no data available | |
| 12.2 Persistence and degradability | | | |
| Biodegradability | : Result: | no data available | |
| 12.3 Bioaccumulative potential | | | |
| Bioaccumulation | : Remark | s: no data available | |
| 12.4 Mobility in soil | | | |
| Distribution among environmental compartments | : Remark | s: no data available | |
| 12.5 Results of PBT and vPvB assessi | nent | | |
| Assessment | be eithe | ostance/mixture contains no r persistent, bioaccumulative nt and very bioaccumulative | e and toxic (PBT), or very |
| 12.6 Other adverse effects | | | |
| Additional ecological information | : no data | available | |
| | | | |

13.1 Waste treatment methods

Product

Contact waste disposal services. Dispose of in accordance with local regulations.

:



according to Regulation (EC) No. 1907/2006

Recombinant human insulin 0.5%

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Not dangerous goods

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SECTION 14: Transport information

IATA

| 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 | | Not dangerous goods |
| 14.1 14.2 14.3 14.4 14.5 ADR | UN number Proper shipping name Transport hazard class Packing group Environmental hazards | Not applicable Not applicable Not applicable Not applicable Marine pollutant: no Not dangerous goods |
| 14.1 14.2 14.3 14.4 14.5 RID | UN number Proper shipping name Transport hazard class Packing group Environmental hazards | Not applicable Not applicable Not applicable Not applicable no |
| 14.1 14.2 14.3 14.4 14.5 DOT | UN number Proper shipping name Transport hazard class Packing group Environmental hazards | Not applicable Not applicable Not applicable Not applicable no 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 |



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|--------------------------------------|---|--|-----------------------|
| 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 | : none | |
| 14.7 | Transport in bulk according to Annex II of Marpol and the IBC Code | : Not applicable | |

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 XIV) | : | Not applicable | | | | |

Regulation (EC) No 1005/2009 on substances that deplete the : Not applicable ozone layer

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

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 contaminating class : nwg not water endangering (Germany)

15.2 Chemical safety assessment

not required

SECTION 16: Other information

Full text of H-Statements

Further information

Full text of other abbreviations



according to Regulation (EC) No. 1907/2006

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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; 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

Date format

dd.mm.yyyy

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

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according to Regulation (EC) No. 1907/2006

BPE Low Protein - non specific

| Version 2.0 | Revision Date 13.12.2018 | Print Date 10.03.2021 | | | |
|---|--|-----------------------|--|--|--|
| SECTION 1: Identification of the substance/mixture and of the company/undertaking | | | | | |
| 1.1 Product identifier | | | | | |
| Product name : | BPE Low Protein - non specific | | | | |
| 1.2 Relevant identified uses of the substa | nce or mixture and uses advised against | | | | |
| Use of the Substance/Mixture : | Scientific research and development | | | | |
| 1.3 Details of the supplier of the safety da | ta 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)

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.

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.



according to Regulation (EC) No. 1907/2006

BPE Low Protein - non specific

| Version 2.0 | | Revision Date 13.12.2018 | Print Date 10.03.202 |
|---|-----------|---|------------------------|
| SECTION 3: Composition/informat | ion | 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 precaul If skin irritation persists, call a physicia | |
| In case of eye contact | : | Immediately flush eye(s) with plenty of If eye irritation persists, consult a spec | |
| If swallowed | : | Immediately give large quantities of wa Do not induce vomiting without medica Never give anything by mouth to an un | l advice. |
| 4.2 Most important symptoms and eff | ects | both acute and delayed | |
| Symptoms | : | No information available. | |
| 4.3 Indication of any immediate medic | al a | tention and special treatment needed | |
| Treatment | : | No information available. | |
| Hoathon | | No information available. | |
| SECTION 5: Firefighting measures | 5 | | |
| | ; | | |
| SECTION 5: Firefighting measures | : | Water spray Dry powder Foam | |
| SECTION 5: Firefighting measures 5.1 Extinguishing media Suitable extinguishing media | : | Water spray Dry powder Foam | |
| SECTION 5: Firefighting measures 5.1 Extinguishing media Suitable extinguishing media 5.2 Special hazards arising from the s | : ubst | Water spray Dry powder Foam | |
| SECTION 5: Firefighting measures 5.1 Extinguishing media Suitable extinguishing media 5.2 Special hazards arising from the s | : ubst | Water spray Dry powder Foam :ance or mixture | |
| SECTION 5: Firefighting measures 5.1 Extinguishing media Suitable extinguishing media 5.2 Special hazards arising from the s Specific hazards during firefighting | : ubst | Water spray Dry powder Foam :ance or mixture | I breathing apparatus. |



according to Regulation (EC) No. 1907/2006

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|---|-----|--|---|
| SECTION 6: Accidental release mea | su | res | |
| 6.1 Personal precautions, protective eq | uip | ment and emergency procedures | |
| Personal precautions | : | Use personal protective equipment. | |
| 6.2 Environmental precautions | | | |
| Environmental precautions | : | Prevent product from entering drains. | |
| 6.3 Methods and material for containme | ent | and cleaning up | |
| Methods for cleaning up | : | Contain spillage, and then collect with n absorbent material, (e.g. sand, earth, di vermiculite) and place in container for d local / national regulations (see section | atomaceous earth, isposal 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 | : | Take precautionary measures against s | tatic discharges. |
| Hygiene measures | : | Handle in accordance with good industr practice. | ial hygiene and safety |
| 7.2 Conditions for safe storage, includi | 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. | |

-

Occupational Exposure Limits

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering measures

Avoid splashes.



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|-------------------------------|---|-----------------------------|
| 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 according concentration of the dangerous su No special protective equipment re | ibstance at the work place. |
| Respiratory protection | : No personal respiratory protective required. | equipment normally |

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| Appearance | : | Aqueous solution |
|--|---|-------------------|
| Colour | : | no data available |
| Odour | : | no data available |
| Odour Threshold | : | no data available |
| рН | : | no data available |
| Freezing point | : | no data available |
| Boiling point/boiling range | : | no data available |
| Flash point | : | does not flash |
| Evaporation rate | : | no data available |
| Flammability (solid, gas) | : | no data available |
| Upper explosion limit | : | no data available |
| Lower explosion limit | : | no data available |
| Vapour pressure | : | no data available |
| Relative vapour density | : | no data available |
| Relative density | : | no data available |
| Density | : | no data available |
| Solubility(ies) Water solubility | : | soluble |
| Partition coefficient: n-octanol/water | : | no data available |



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|---|-----------------|---------------------------------|-----------------------|
| Auto-ignition temperature | : no data | a available | |
| Decomposition temperature | : no data | a available | |
| Viscosity | : no data | a available | |
| Explosive properties | : no data | a available | |
| Oxidizing properties | : no data | a available | |
| 9.2 Other information | | | |
| no data available | | | |
| SECTION 10: Stability and react | vity | | |
| | | | |
| 10.1 Reactivity Stable under recommended stora | ae conditions. | | |
| 10.2 Chemical stability | go contaitionor | | |
| Stable under normal conditions. | | | |
| 10.3 Possibility of hazardous reaction | ons | | |
| Hazardous reactions | | under normal conditions. | |
| 10.4 Conditions to avoid | | | |
| Conditions to avoid | : no data | a available | |
| 10.5 Incompatible materials | | | |
| Materials to avoid | : Strong | oxidizing agents | |
| 10.6 Hazardous decomposition pro | lucts | | |
| No decomposition if stored norma | lly. | | |
| SECTION 11: Toxicological infor | mation | | |
| 11.1 Information on toxicological ef | ects | | |
| Further information | | | |
| | Remar | ks: No data is available on the | product itself. |
| SECTION 12: Ecological informa | tion | | |
| 12.1 Toxicity | | | |
| Toxicity to fish | : Remar | ks: no data available | |
| 12.2 Persistence and degradability | | | |
| Biodegradability | : Result: | no data available | |
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|---|--|---|--|
| 12.3 Bi | ioaccumulative potential | | |
| Bie | oaccumulation | : Remarks: no data available | |
| 12.4 M | obility in soil | | |
| | stribution among environmental mpartments | : Remarks: no data available | |
| 12.5 Re | esults of PBT and vPvB assessr | ient | |
| As | ssessment | be either persistent, bioaccum | ns no components considered to julative and toxic (PBT), or very ilative (vPvB) at levels of 0.1% or |
| 12.6 O | ther adverse effects | | |
| Ac | dditional ecological information | : no data available | |
| | ON 13: Disposal consideratio | ns | |
| | aste treatment methods | : Dispose of in accordance with | |
| | | · | 5 |
| | | | |
| SECTI | ION 14: Transport information | | |
| SECTI IATA | ION 14: Transport information | Not dangerous goods | |
| | UN number | | |
| IATA 14.1 14.2 | UN number Proper shipping name | Not dangerous goods : Not applicable : Not applicable | |
| IATA 14.1 14.2 14.3 | UN number Proper shipping name Transport hazard class | Not dangerous goods : Not applicable : Not applicable : Not applicable | |
| IATA 14.1 14.2 | UN number Proper shipping name | Not dangerous goods : Not applicable : Not applicable | |
| IATA 14.1 14.2 14.3 14.4 | UN number Proper shipping name Transport hazard class Packing group | Not dangerous goods : Not applicable : Not applicable : Not applicable : Not applicable | |
| IATA 14.1 14.2 14.3 14.4 14.5 | UN number Proper shipping name Transport hazard class Packing group | Not dangerous goods Not applicable Not applicable Not applicable Not applicable no | |
| IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 | UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name | Not dangerous goods Not applicable Not applicable Not applicable Not applicable no Not dangerous goods Not applicable Not applicable Not applicable | |
| IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 | UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class | Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not dangerous goods Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not applicable | |
| IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 14.4 | UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class Packing group | Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not dangerous goods Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable | |
| IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 | UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class | Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not dangerous goods Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not applicable | |
| IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 14.4 | UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class Packing group | Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not dangerous goods Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable | |
| IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 14.4 14.5 ADR 14.1 | UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class Packing group | Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not dangerous goods Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Marine pollutant: no | |
| IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 14.4 14.5 ADR 14.1 14.2 | UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class Packing group Environmental hazards | Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not dangerous goods Not dangerous goods Not applicable Not dangerous goods Not dangerous goods Not dangerous goods | |
| IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 14.4 14.5 ADR 14.1 14.2 14.3 | UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class Packing group Environmental hazards | Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not dangerous goods Not dangerous goods Not applicable Not dangerous goods Not dangerous goods Not dangerous goods Not applicable Not applicable | |
| IATA 14.1 14.2 14.3 14.4 14.5 IMDG 14.1 14.2 14.3 14.4 14.5 ADR 14.1 14.2 | UN number Proper shipping name Transport hazard class Packing group Environmental hazards UN number Proper shipping name Transport hazard class Packing group Environmental hazards | Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not dangerous goods Not dangerous goods Not applicable Not dangerous goods Not dangerous goods Not dangerous goods | |



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| RID | | : 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 | |
| DOT | | : 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 | |
| TDG | | : 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 | |
| 14.6 | Special precautions for user | : none | |
| 14.7 | Transport in bulk according to Annex II of Marpol and the IBC Code | : Not applicable | |
| | | | |

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 XIV) | : | Not applicable |
| Regulation (EC) No 1005/2009 on substances that deplete the ozone layer | : | Not applicable |
| Regulation (EC) No 850/2004 on persistent organic pollutants | : | Not applicable |
| Seveso III: Directive 2012/18/EU of the European Parliament and | nd d | of the Council on the cont |

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



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|--|-----------------------------|
| | |
| : nwg not water endangering Classification according to AwSV, Ann | nex 1 (2.2) |
| | |
| - | : nwg not water endangering |

SECTION 16: Other information

Full text of H-Statements

Further 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 -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

Date format

dd.mm.yyyy



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Print Date 10.03.2021

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.

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according to Regulation (EC) No. 1907/2006

HEGF FOR USE IN KGM KIT

| Version 2.0 | Revision Date 13.12.2018 | Print Date 10.03.2021 |
|---|--|-----------------------|
| SECTION 1: Identification of the s | ubstance/mixture and of the company | /undertaking |
| 1.1 Product identifier | | |
| Product name | : HEGF FOR USE IN KGM KIT | |
| 1.2 Relevant identified uses of the su | bstance or mixture and uses advised agai | nst |
| Use of the Substance/Mixture | : Scientific research and development | |
| 1.3 Details of the supplier of the safet | 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 | rk |
| 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.

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.



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| SECTION 3: Composition/informat | tion 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 precaut If skin irritation persists, call a physician | |
| In case of eye contact | : Immediately flush eye(s) with plenty of If eye irritation persists, consult a specia | |
| If swallowed | : Immediately give large quantities of wat Do not induce vomiting without medical Never give anything by mouth to an unc | advice. |
| 4.2 Most important symptoms and eff | ects, both acute and delayed | |
| Symptoms | : No information available. | |
| | | |
| 4.3 Indication of any immediate medio | cal attention and special treatment needed | |
| 4.3 Indication of any immediate medic Treatment | cal attention and special treatment needed : No information available. | |
| • | : No information available. | |
| Treatment | : No information available. | |
| Treatment SECTION 5: Firefighting measures | : No information available. | |
| Treatment SECTION 5: Firefighting measures 5.1 Extinguishing media Suitable extinguishing media | No information available. Water spray Dry powder Foam | |
| Treatment SECTION 5: Firefighting measures 5.1 Extinguishing media Suitable extinguishing media 5.2 Special hazards arising from the s | No information available. Water spray Dry powder Foam | |
| Treatment SECTION 5: Firefighting measures 5.1 Extinguishing media Suitable extinguishing media 5.2 Special hazards arising from the s | No information available. Water spray Dry powder Foam Substance or mixture | |
| Treatment SECTION 5: Firefighting measures 5.1 Extinguishing media Suitable extinguishing media 5.2 Special hazards arising from the s Specific hazards during firefighting | No information available. Water spray Dry powder Foam Substance or mixture | breathing apparatus. |



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| SECTION 6: Accidental release mea | su | res | |
| 6.1 Personal precautions, protective eq | uip | ment and emergency procedures | |
| Personal precautions | : | Use personal protective equipment. | |
| 6.2 Environmental precautions | | | |
| Environmental precautions | : | Prevent product from entering drains. | |
| 6.3 Methods and material for containme | ent | and cleaning up | |
| Methods for cleaning up | : | Contain spillage, and then collect with n absorbent material, (e.g. sand, earth, di vermiculite) and place in container for d local / national regulations (see section | atomaceous earth, isposal 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. | |
| | | Take precautionary measures against s | tatia dia da arma a |
| Advice on protection against fire and explosion | : | rano procedulonary modouroo againoro | tatic discharges. |
| | : | Handle in accordance with good industr practice. | - |
| explosion Hygiene measures | : | Handle in accordance with good industr practice. | - |
| explosion Hygiene measures | : ng : | Handle in accordance with good industr practice. any incompatibilities | - |
| explosion Hygiene measures 7.2 Conditions for safe storage, includi Requirements for storage areas and | : ng : | Handle in accordance with good industr practice. any incompatibilities | - |

Occupational Exposure Limits

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering measures

Avoid splashes.



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HEGF FOR USE IN KGM KIT

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|-------------------------------|---|----------------------------|
| Personal protective equipment | | |
| Eye protection | : Tightly fitting safety goggles | |
| Hand protection | NI2-11 11 | |
| Material | : Nitrile rubber | |
| Rate of permeability | : > 480 min | |
| Skin and body protection | : Choose body protection according concentration of the dangerous su No special protective equipment re | bstance at the work place. |
| Respiratory protection | : No personal respiratory protective required. | equipment normally |

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| Appearance | : | Aqueous solution |
|--|---|-------------------|
| Colour | : | no data available |
| Odour | : | no data available |
| Odour Threshold | : | no data available |
| рН | : | no data available |
| Freezing point | : | no data available |
| Boiling point/boiling range | : | no data available |
| Flash point | : | does not flash |
| Evaporation rate | : | no data available |
| Flammability (solid, gas) | : | no data available |
| Upper explosion limit | : | no data available |
| Lower explosion limit | : | no data available |
| Vapour pressure | : | no data available |
| Relative vapour density | : | no data available |
| Relative density | : | no data available |
| Density | : | no data available |
| Solubility(ies) Water solubility | : | soluble |
| Partition coefficient: n-octanol/water | : | no data available |



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| Auto-ignition temperature | : | no data available | |
| Decomposition temperature | : | no data available | |
| Viscosity | : | no data available | |
| Explosive properties | : | no data available | |
| Oxidizing properties | : | no data available | |
| 9.2 Other information no data available | | | |
| SECTION 10: Stability and react | ivity | | |
| 10.1 Reactivity Stable under recommended stora | age con | ditions. | |
| 10.2 Chemical stability Stable under normal conditions. | | | |
| 10.3 Possibility of hazardous reacti | ons | | |
| 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 pro No decomposition if stored norma | | | |
| SECTION 11: Toxicological info | rmatio | n | |
| 11.1 Information on toxicological ef | fects | | |
| Further information | | | |
| | | Remarks: No data is available on the produ | ict itself. |
| SECTION 12: Ecological informa | ation | | |
| 12.1 Toxicity | | | |
| Toxicity to fish | : | Remarks: no data available | |
| 12.2 Persistence and degradability | | | |
| Biodegradability | : | Result: no data available | |
| Ref / 00000028713 | | SDK EU/EN | Page 57 (6' |



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|---|--|--------|---|--------------------------|
| 12.3 Bioa | accumulative potential | | | |
| Bioa | ccumulation | : F | Remarks: no data available | |
| 12.4 Mob | oility in soil | | | |
| | ibution among environmental partments | : F | Remarks: no data available | |
| 12.5 Res | ults of PBT and vPvB assess | ment | | |
| Asse | essment | t F | This substance/mixture contains no obe either persistent, bioaccumulative persistent and very bioaccumulative higher. | and toxic (PBT), or very |
| 12.6 Othe | er adverse effects | | | |
| Addi | tional ecological information | : r | no data available | |
| SECTIO | N 13: Disposal consideration | ons | | |
| OLONO | | 0113 | | |
| 13.1 Was | ste treatment methods | | | |
| | | | | |
| Prod | | | Dispose of in accordance with local i | regulations. |
| | N 14: Transport informatio | | Dispose of in accordance with local i Not dangerous goods | regulations. |
| SECTIO | | | Not dangerous goods | regulations. |
| SECTIO | N 14: Transport informatio | | | regulations. |
| SECTIO IATA 14.1 U 14.2 F 14.3 T | N 14: Transport informatio UN number Proper shipping name Transport hazard class | | Not dangerous goods Not applicable Not applicable Not applicable Not applicable | regulations. |
| SECTIO IATA 14.1 U 14.2 F 14.3 T 14.4 F | N 14: Transport informatio UN number Proper shipping name Transport hazard class Packing group | | Not dangerous goods Not applicable Not applicable Not applicable Not applicable Not applicable | regulations. |
| SECTIO IATA 14.1 U 14.2 F 14.3 T 14.4 F | N 14: Transport informatio UN number Proper shipping name Transport hazard class | | Not dangerous goods Not applicable Not applicable Not applicable Not applicable | regulations. |
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according to Regulation (EC) No. 1907/2006

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|-------------|---|--------------------------|-----------------------|
| RID | | : 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 | |
| DOT | | : 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 | |
| TDG | | : 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 | |
| 14.6 | Special precautions for user | : none | |
| 14.7 | Transport in bulk according to Annex II of Marpol and the IBC Code | : Not applicable | |

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 XIV) | : | Not applicable |
| Regulation (EC) No 1005/2009 on substances that deplete the ozone layer | : | Not applicable |
| Regulation (EC) No 850/2004 on persistent organic pollutants | : | Not applicable |
| Seveso III: Directive 2012/18/EU of the European Parliament and | nd c | of the Council on the cont |

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



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|---|--|-----------------------|--|
| National regulatory information | | | |
| Water contaminating class (Germany) | WGK 1 slightly hazardous to water Classification according to AwSV, Annex 1 (5.2) | | |
| 15.2 Chemical safety assessment not required | | | |

SECTION 16: Other information

Full text of H-Statements

Further 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 -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

Date format

dd.mm.yyyy



SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

according to Regulation (EC) No. 1907/200

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Version 2.0

Revision Date 13.12.2018

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