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

**1.1 Product identifier**

Product name: ReverseT Enzyme

Product number: 1000028509

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

Recommended restrictions: For research use only

**1.3 Details of the supplier of the safety data sheet**

|  |  |
| --- | --- |
| Company | STOmics Tech Co., Ltd. |
| Address | No. 9 Yunhua Road, Yantian District, Shenzhen, Guangdong Province, P.R.China |

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification according to REGULATION (EU) 2020/878 amending Regulations EU 2015/830 and (EC) No 1907/2006**

Skin Irrit. 2; H315 Causes skin irritation.

Eye Irrit. 2; H319 Causes serious eye irritation.

**2.2. Label elements**

**According to REGULATION (EU) 2020/878 amending Regulations EU 2015/830 and (EC) No 1907/2006**



**Warning**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

**[Prevention]:**

P264 Wash thoroughly after handling.

P280 Wear protective gloves, eye protection, face protection.

**[Response]:**

P302+352 IF ON SKIN: Wash with plenty of soap and water.

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P321 Specific treatment (see information on this label).

P332+313 IF SKIN IRRITATION OCCURS: Get medical advice or attention.

P337+313 If eye irritation persists: Get medical advice or attention.

P362 Take off contaminated clothing and wash before reuse.

**[Storage]:**

No CLP storage statements

**[Disposal]:**

No CLP disposal statements

**2.3. Other hazards**

This product contains no PBT/vPvB chemicals.

This product contains no endocrine disrupting chemicals.

**SECTION 3: Composition/information on ingredients**

|  |  |  |  |
| --- | --- | --- | --- |
| Product Name: ReverseT Enzyme | | | |
| ingredient | CAS-No. | Concentration (% w/w) | Classification |
| Water | 7732-18-5 | >50% | Non-hazardous |
| Glycerin | 56-81-5 | >10%-20% | Not Classified |
| EDTA | 60-00-4 | 1–5% | Eye Irrit. 2;H319 |
| Potassium chloride | 7447-40-7 | 1–5% | Not Classified |
| Tris (hydroxymethyl) aminomethane | 77-86-1 | 1 – 5% | Skin Irrit. 2;H315  Eye Irrit. 2;H319  STOT SE 3;H335 |
| Other components | - | < 1% | Not Classified |

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

|  |  |
| --- | --- |
| General advice : | Leave this dangerous place  Contact a doctor  Present this SDS to the doctor present  Don't let the victim be left unattended |
| If inhaled : | Call your doctor immediately or call the National Emergency Advice for Hazardous Chemicals.  Transfer to fresh air.  If you are unconscious,place it in a recovery position and seek medical advice. |
| In case of skin contact : | If skin or hair contact occurs,remove contaminated clothing and wash skin and hair with tap water.  Seek medical advice if there is swelling, redness, blisters or irritation.  Seek medical attention promptly |
| In case of eye contact : | If you come into contact with your eyes, rinse your eyes with plenty of water and seek medical advice.  Continue to flush your eyes while transporting to the hospital.  Remove the contact lens.  Protect the eyes without injuries.  Keep your eyes wide when you rinse.  If you still have eye irritation, consult a specialist.  Keep the airway open. |
| If swallowed : | Do not induce vomiting.  Do not give milk or alcoholic beverages.  Never feed anything that is unconscious to your mouth..  The victim was taken to the hospital immediately.  Rinse with water. |

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

In case of inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. In case of discomfort seek medical attention.

In case of skin contact: Wash off with soap and plenty of water for at least 15 minutes. In case of discomfort seek medical attention.

In case of eye contact: Flush eyes thoroughly with water for 15 minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing. In case of discomfort seek medical attention.

In case of ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. In case of discomfort seek medical attention.

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

NO DATA.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

|  |  |
| --- | --- |
| Suitable extinguishing media | Extinguish with water mist, alcohol-resistant foam, dry powder or carbon dioxide |
| Unsuitable extinguishing media | NO DATA |

**5.2 Special hazards arising from the substance or mixture**

NO DATA.

**5.3 Advice for firefighters**

|  |  |
| --- | --- |
| Special protective equipment for firefighters : | Wear self-contained breathing apparatus for firefighting if nec-essary. |
| Further information: | Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  For safety reasons in case of fire, cans should be stored sepa-rately in closed containments.  Use a water spray to cool fully closed containers |

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

|  |  |
| --- | --- |
| Personal precautions : | Use personal protective equipment.  Ensure adequate ventilation.  Remove all sources of ignition.  Evacuate personnel to safe areas.  Refer to protective measures listed in sections 7 and 8.  Beware of vapours accumulating to form explosive concentra-tions. Vapours can accumulate in low areas. |

**6.2 Environmental precautions**

|  |  |
| --- | --- |
| Environmental precautions : | Prevent product from entering drains.  Prevent further leakage or spillage if safe to do so.  If there is pollution in the sewer or waterway, please report to the local authorities. |

**6.3 Methods and material for containment and cleaning up**

*a lot of leaks:*

Use an inert absorbent material such as sand or soil to absorb spillage.

Collect spilled product and place it in a sealable container or bucket for disposal.

Clean contaminated areas and objects with plenty of water and detergent.

*Small amount of leakage:*

Absorbing materials such as sand or soil absorb spillage.

Collect spilled product and place it in a sealable container for disposal.

Clean contaminated areas and objects with water and detergent

**6.4 Reference to other sections**

Treat recovered material as described in the section "Disposal considerations".

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

Avoid the formation of aerosols.

Do not breathe steam/dust.

Avoid contact - get special instructions before use.

Avoid contact with skin and eyes.

See section 8 for personal protection.

Smoking, eating and drinking areas should be prohibited during use.

Take precautions to prevent electrostatic discharge.

Provide adequate air exchange and/or exhaust in the workroom.

Dispose of rinse water in accordance with local and national regulations.

To prevent leakage or spillage, provide a suitable liquid retention system.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep containers in a dry, cool and well-ventilated place.

Keep away from heat/sparks/open flames/hot surfaces.

Store away from incompatible materials and foodstuff containers.

Storage temperature generally should be -25℃~ -15℃, relative humidity generally should not be higher than 80%.

**SECTION 8: Exposure controls/personal protection**

**8.1 Occupational Exposure Limits**

|  |  |  |
| --- | --- | --- |
| **Ingredient** | **Source** | **Value** |
| Glycerin | OSHA | TWA 15 mg/m3 (total dust) TWA 5 mg/m3 (resp) |
| ACGIH | TWA: 3 mg/m3 (respirable) 10 mg/m3 (mist) |
| NIOSH | No established RELs |
| Supplier | No Established Limit |

**8.2 Biological occupational exposure limits**

This product has no specified occupational exposure limits for components.

**8.3 Engineering measures**

Use only in well ventilated areas.

Keep the container closed when not in use.

**8.4 Personal protective equipment**

|  |  |
| --- | --- |
| Respiratory protection: | In the case of vapour formation use a respirator with an ap-proved filter. |
| Eye protection: | Eye wash bottle with pure water  Tightly fitting safety goggles  Wear face-shield and protective suit for abnormal processing problems. |
| Skin and body protection: | Impervious clothing  Choose body protection according to the amount and con-centration of the dangerous substance at the work place. |
| Hand protection: | Protective gloves  Use specific protective gloves for specific locations. |

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

|  |  |
| --- | --- |
| Appearance and shape: | colourless liquid |
| odor: | odorless |
| pH value: | No data |
| Melting point / freezing point: | No data |
| Boiling point: | No data |
| Flash point: | No data |
| Upper explosion limit: | No data |
| Lower explosion limit: | No data |
| Vapor Pressure: | No data |
| Vapor density | No data |
| density | No data |
| Solubility | Soluble in water |
| N-octanol/water partition coefficient | No data |
| Auto-ignition temperature | No data |
| Decomposition temperature | No data |

**Other information-None data.**

**SECTION 10: Stability and reactivity**

**10.1 Stability**

Stable under the recommended storage conditions.

**10.2 Possibility of hazardous reactions**

No hazardous reactions when stored and handled within normal conditions of use.

**10.3. Conditions to avoid**

Avoid extremes of temperature and direct sunlight.

Avoid contact with incompatible

materials.

**10.4 Incompatible materials**

Oxidising agents and alkalis.

**10.5 Hazardous decomposition products**

Oxides of carbon and nitrogen, smoke and other toxic fumes

**SECTION 11: Toxicological information**

**Acute toxicity**

**For Glycerin**

|  |  |
| --- | --- |
| Oral LD50(rats)： | 27 mg/kg bw |
| Dermal LD50(rabbit)： | 45 mL/kg bw |
| Inhalation LC50(rats)(7h)： | 4655 mg-min/liter |

**For Tris:**

|  |  |
| --- | --- |
| Oral LD50(rat): | > 5000mg/kg bw |
| Oral LD50(rat): | > 5000mg/kg bw |

**For Potassium chloride:**

|  |  |
| --- | --- |
| Oral LD50(rats)： | 3020 mg/kg bw |

**For** **Edetic acid (EDTA):**

|  |  |
| --- | --- |
| Oral LD50(rats)： | 4500 mg/kg bw |
| Inhalation LC50(rats)(6h)： | 30 mg/m3 |

**Skin corrosion/irritation**

Causes skin irritation. Skin Irrit. 2

**Serious eye damage/eye irritation**

Causes serious eye irritation. Eye Irrit. 2

**Respiratory or skin allergies**

No data available.

**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

No data available.

**Reproductive toxicity**

No data available

**Specific target organ toxicity (one exposure)**

No data available

**Specific target organ system toxicity (repeated exposure)**

No data available

**Aspiration hazard**

No data available

**Additional information**

No data

**SECTION 12: Ecological information**

**Ecotoxicity**

**For** **Potassium chloride:**

|  |  |
| --- | --- |
| Fish LC50 : | 880 mg/L/96h |
| Aquatic Invertebrates EC50/LC50 : | 660 mg/L/48h |
| aquatic algae and cyanobacteria EC50: | >100 mg/L/72h |

**For** **Tris:**

|  |  |
| --- | --- |
| Fish LC50(96h):  Aquatic invertebrates EC50(48h):  algae and cyanobacteria EC50 (96h): | 25000mg/L  980mg/L  397 mg/L |

**For** **Glycerin:**

|  |  |
| --- | --- |
| Fish LC50(96h):  Aquatic invertebrates EC50(48h):  algae and cyanobacteria EC50 (96h): | 885 mg/L  1955 mg/L  2900 mg/L |

**For** **Edetic acid (EDTA):**

|  |  |
| --- | --- |
| Fish LC50 : | >100 mg/L/96h |
| Aquatic Invertebrates EC50/LC50 : | 140mg/L/48h |
| aquatic algae and cyanobacteria EC50: | >60mg/L/72h |

**Persistence and degradability**

No data available

**Potential bioaccumulation**

No data available

**Soil migration**

No data available

**Other environmental harmful effects**

No data available

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

|  |  |
| --- | --- |
| Product | The product should not be allowed to enter drains, water courses or the soil.  Do not contaminate ponds, waterways or ditches with chemi-cal or used container.  Send to a licensed waste management company. |
| Contaminated packaging | Empty remaining contents.  Dispose of as unused product.  Do not re-use empty containers.  Do not burn, or use a cutting torch on, the empty drum. |

**SECTION 14: Transport information**

|  |  |
| --- | --- |
| UNRTDG： | Not Regulated |
| IMDG： | Not Regulated |
| IATA： | Not Regulated |

**SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mix-ture**

|  |  |
| --- | --- |
| *Regulation (EC) No. 1272/2008：* | Exist |
| *Regulation (EC) No. 1907/2006:* | Exist |

**15.2 Other regulations**

Please note that waste disposal should also comply with local regulations.

**SECTION 16: Other information**

**16.1 Abbreviations and acronyms**

|  |
| --- |
| DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List |
| EINECS/ELINCS - European INventory of Existing Commercial chemical Substances/European LIst of Notified Chemical Substances |
| ENCS - Japanese Existing and New Chemical Substances |
| IECSC - Chinese Inventory of Existing Chemical Substances |
| KECL - Korea Existing Chemicals List |
| PICCS - The Philippine Inventory of Chemicals and Chemical Substances |
| AICS - The Australian Inventory of Chemical Substances |

**16.2 Key literature references and sources for data**

|  |
| --- |
| ECHA: http://echa.europa.eu/ |
| IFA GESTIS:  http://gestis-en.itrust.de/nxt/gateway.dll?f=templates$fn=default.htm$vid=gestiseng:sdbeng |
| eChemPortal: http://www.echemportal.org/echemportal/index?pageID=0&request\_locale=en |
| HSDB: http://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm |
| ICSC: http://www.ilo.org/dyn/icsc/showcard.home |
| NITE-CHRIP: http://www.nite.go.jp/en/chem/chrip/chrip\_search/srhInput |

**16.3 Full text of H-Statements：**

|  |
| --- |
| H302 Harmful if swallowed. |

|  |
| --- |
| H314 Causes severe skin burns and eye damage. |

|  |
| --- |
| H315 Causes skin irritation. |

|  |
| --- |
| H318 Causes serious eye damage. |

|  |
| --- |
| H319 Causes serious eye irritation. |

|  |
| --- |
| H331 Toxic if inhaled. |

|  |
| --- |
| H335 May cause respiratory irritation. |

**16.4 Training advice**

NO data.

**16.5 Further information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, infor-mation and belief at the date of its publication. The information given is designed only as a guid-ance 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.

**END OF SDS.**