

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/30/2024

Reviewed on 10/30/2024

1 Identification

- **Product identifier**
- **Trade name:** Glucose oxidase from Aspergillus niger min. 220 U/mg
- **Article number:** 22778
- **CAS Number:**
9001-37-0
- **EC number:**
232-601-0
- **Application of the substance / the mixture:** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de
- **Information department:** Security Department Phone: +49 6221 13840-35
- **Emergency telephone number:**
Emergency medical information in case of poisoning
Poison Information Center Mainz-Tel: +49 (0) 6131 19240
(Advice in German and English)



2 Hazard(s) identification

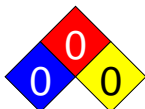
- **Classification of the substance or mixture**



GHS08

Sensitization - Respiratory 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

- **Label elements**
- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:** GHS08
- **Signal word:** Danger
- **Hazard statements:**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Precautionary statements**
Avoid breathing dust.
Wear respiratory protection.
If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a poison center/doctor.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 0
Fire = 0
Reactivity = 0

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· HMIS-ratings (scale 0 - 4)

HEALTH	0	Health = *0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

· Other hazards

· Results of PBT and vPvB assessment:

- **PBT:** PBT - Assessment not available.
- **vPvB:** vPvB - Assessment not available.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description:**
9001-37-0 Oxidase, glucose
- **Identification number(s):**
- **EC number:** 232-601-0
- **Description:**
- **MW:** ca. 160000

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Wash off immediately with soap and water and rinse thoroughly. In case of complaints, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes with running water. Remove existing contact lenses, if possible, and continue rinsing. In case of complaints, consult an ophthalmologist.
- **After swallowing:**
Rinse out mouth. Drink plenty of water and provide fresh air. Consult a doctor in case of complaints.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Carbon monoxide and carbon dioxide
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.

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- Avoid formation of dust.
- Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up**
- Dispose contaminated material as waste according to section 13.
- Pick up mechanically.
- **Protective Action Criteria for Chemicals**
- **PAC-1:** Substance is not listed.
- **PAC-2:** Substance is not listed.
- **PAC-3:** Substance is not listed.
- **Reference to other sections**
- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling:**
- Ensure good ventilation/exhaustion at the workplace.
- Open and handle receptacle with care.
- Prevent formation of dust.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
- Store only in the original receptacle.
- Storage temperature: -15 to -25 °C
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Store container tightly closed and dry.
- **Specific end use(s):** No further relevant information available.

8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Additional information about design of technical systems:** No further data; see section 7.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
- Keep away from foodstuffs, beverages and feed.
- Store protective clothing separately.
- Immediately remove all soiled and contaminated clothing.
- Avoid contact with the eyes and skin.
- Wash hands before breaks and at the end of work.
- **Breathing equipment:**
- Short term filter device:
- Filter P2
- **Protection of hands:**
- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
- Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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- **Material of gloves:**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material:**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
Natural rubber, NR
Nitrile rubber, NBR
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information:**
- **Color:** Yellow
- **Odor:** Odorless
- **Odor threshold:** not determined.
- **Melting point/Melting range:** No information available
- **Boiling point/Boiling range:** No information available
- **Flammability (solid, gaseous):** No information available
- **Explosion limits:**
- **Lower:** No information available
- **Upper:** No information available
- **Flash point:** No information available
- **Decomposition temperature:** No information available
- **pH-value:** No information available
- **Viscosity:**
- **Kinematic viscosity:** No information available
- **Dynamic viscosity:** No information available
- **Solubility in / Miscibility with:**
- **Water:** Soluble.
- **Partition coefficient (n-octanol/water):** No information available
- **Vapor pressure:** No information available
- **Vapor pressure:**
- **Density:** No information available
- **Relative density:** No information available
- **Other information**
- **Appearance:**
- **Form:** lyophilisate
- **Important information on protection of health and environment, and on safety:**
- **Danger of explosion:** The product is not explosive, but the formation of explosive dust/air mixtures is possible.
- **Molecular weight** ~160,000 g/mol

10 Stability and reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.

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- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** In case of fire: see section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **Sensitization:** May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

- **Toxicity:**
 - **Aquatic toxicity:** No further relevant information available.
 - **Persistence and degradability:** No further relevant information available.
 - **Bioaccumulative potential:** No further relevant information available.
 - **Mobility in soil:** No further relevant information available.
 - **Results of PBT and vPvB assessment:**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
 - **Other adverse effects:**
 - **Additional ecological information:**
 - **General notes:**
- Do not allow product to reach ground water, water course or sewage system.
Water hazard class 1 (Assessment by list): slightly hazardous for water

13 Disposal considerations

- **Waste treatment methods**
 - **Recommendation:**
- Dispose of in accordance with official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
 - **Recommendation:**
- Uncleaned packaging must be disposed of in the same way as the product in accordance with official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|-------------------------------------|------|
| · UN-Number | |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |

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· Packing group	
· DOT, ADR, IMDG, IATA	Void
· Environmental hazards	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act):** ACTIVE
- **Hazardous Air Pollutants** Substance is not listed.
- **Proposition 65** Substance is not listed.
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Carcinogenicity categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS08
- **Signal word** Danger
- **Hazard statements**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Precautionary statements**
Avoid breathing dust.
Wear respiratory protection.
If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a poison center/doctor.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product Safety Department
- **Contact:** +49 6221 13840-35
- **Date of preparation / last revision** 10/30/2024 / 3
- **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
PBT: persistent, bioaccumulative, toxic substance (REACH)
vPvB: very persistent, very bioaccumulative substance (REACH)

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*REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals**CLP: Regulation on classification, labelling and packaging of substances and mixtures**bw: body weight**ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**DOT: US Department of Transportation**IATA: International Air Transport Association**EINECS: European Inventory of Existing Commercial Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Sensitization - Respiratory 1: Respiratory sensitisation – Category 1*

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