

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

1.1 Product identifier

Trade name: Glucose oxidase

Article number: 6028

CAS Number:

9001-37-0

EC number:

232-601-0

Registration number

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

No further relevant information available.

Application of the substance / the mixture

Laboratory chemical

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Carl Roth GmbH + Co. KG

Schoemperlenstraße 3-5

76185 Karlsruhe

Germany

Telefon: +49/(0)721 5606-0

Telefax: +49/(0)721 5606-149

E-Mail: sicherheit@carlroth.de

Further information obtainable from: Department Health, Safety and Environment

1.4 Emergency telephone number:

Poison Centre Munich

Telefon +49/(0)89 19240

2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xn; Sensitising

R42: May cause sensitisation by inhalation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS08

Signal word Danger

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Hazard statements

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements

P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Additional information:

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2.3 Other hazards

All chemicals are potentially dangerous. They are therefore only be handled by specially trained personnel with the necessary care.

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**3 Composition/information on ingredients****3.1 Chemical characterization: Substances****CAS No. Description**

9001-37-0 Oxidase, glucose

Identification number(s)**EC number:** 232-601-0**4 First aid measures****4.1 Description of first aid measures****General information:**

Remove any clothing soiled by the product.

After inhalation:

Supply fresh air; if there is any trouble seek medical help.

After skin contact:

Rinse with water

If there is any trouble seek medical help.

After eye contact:

To be sure rinse opened eye under running water. If there is any trouble seek medical help.

After swallowing:

Rinse out mouth and drink a glass of water. Do not induce vomiting.

Call for a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Allergic reactions

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

Use fire extinguishing methods suitable to surrounding conditions.
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents:

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

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

In the event of fire development of hazardous combustion gases or vapours possible.
Carbon monoxide and carbon dioxide

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe dust.
Ensure adequate ventilation
Avoid formation of dust.
Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental precautions

Do not allow to enter sewers/ground water or penetrate the soil.

6.3 Methods and material for containment and cleaning up

Pick up mechanically.
Dispose of the material collected according to regulations.

6.4 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

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.

Information about fire - and explosion protection:

Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Store away from foodstuffs.

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Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

Recommended storage temperature: -20 °C**7.3 Specific end use(s)**

No further relevant information available.

8 Exposure controls/personal protection**Additional information about design of technical facilities:**

No further data; see item 7.

8.1 Control parameters**Ingredients with limit values that require monitoring at the workplace:** Not required.**Additional information:**

The lists valid during the making were used as basis.

8.2 Exposure controls**Personal protective equipment:****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Respiratory protection:

Required when dusts are generated.
Filter P3 (colour code: white)

Protection of hands:**Protective gloves**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of glovesNitrile, thickness: ≥ 0.11 mm

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.

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Penetration time of glove materialValue for the permeation: Level ≥ 6

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

As protection from splashes gloves made of the following materials are suitable:Nitrile rubber, thickness: ≥ 0.11 mmValue for the permeation: Level ≥ 6 **Eye protection:**

Tightly sealed goggles

Body protection:

Protective work clothing

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties**General Information****Appearance:**

Form:	Solid
Colour:	Yellow
Odour:	Characteristic
Odour threshold:	Not determined.

pH-value:	Not applicable.
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Change in condition

Melting point/Melting range:	Undetermined. No information available.
Boiling point/Boiling range:	Undetermined.

Flash point:	Not applicable.
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Flammability (solid, gaseous):	Not determined.
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Ignition temperature:	No information available
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Decomposition temperature:	Not determined.
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Self-igniting:	Not determined.
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Danger of explosion:	Product does not present an explosion hazard.
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Explosion limits:

Lower:	Not determined. No information available.
Upper:	Not determined. No information available.

Oxidizing properties:	No information available.
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Vapour pressure:	Not applicable.
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Density:	Not determined.
Vapour density	Not applicable.
Evaporation rate	Not applicable.

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Solubility in / Miscibility with water:	Not determined.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
9.2 Other information	No further relevant information available.

10 Stability and reactivity

10.1 Reactivity

No information available

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

Strong reaction possible with:

Strong oxidizing agents

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials:

No information available.

10.6 Hazardous decomposition products:

In case of fire: see item 5.

11 Toxicological information

11.1 Information on toxicological effects

Acute toxicity:**LD/LC50 values relevant for classification:**

Quantitative data on the toxicity of this product are not available.

Specific symptoms in biological assay:

No information available.

Primary irritant effect:**on the skin:**

No information available.

on the eye:

No information available.

after inhalation:

No information available.

Sensitization:

Sensitization possible through inhalation.

CMR effects:**Germ cell mutagenicity:**

No information available.

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Carcinogenicity:

No information available.

Reproductive toxicity:

No information available.

Aspiration hazard:

No information available.

Specific target organ toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Additional toxicological information:

We have no description of any toxic symptoms.

Further information:

The product should be handled with the care usual when dealing with chemicals.

12 Ecological information

12.1 Toxicity**Aquatic toxicity:**

Quantitative data on the ecological effect of this product are not available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Ecotoxicological effects:**Remark:**

Do not allow to enter waters, waste water, or soil!

12.5 Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Other adverse effects**

No further relevant information available.

13 Disposal considerations

Waste treatment methods**Recommendation**

This material and its container must be disposed of as hazardous waste.

The disposal is regionally differently regulated, therefore the kind of disposal is to be inquired at the responsible authorities.

Uncleaned packaging:**Recommendation:**

Disposal according to official regulations.

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14 Transport information

14.1 UN-Number	
ADR, ADN, IMDG, IATA	Void
14.2 UN proper shipping name	
ADR, ADN, IMDG, IATA	Void
14.3 Transport hazard class(es)	
ADR, ADN, IMDG, IATA Class	Void
14.4 Packing group	
ADR, IMDG, IATA	Void
14.5 Environmental hazards:	
Marine pollutant:	No
14.6 Special precautions for user	Not applicable.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	-

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

Information about limitation of use: Employment restrictions concerning juveniles must be observed.

Class	Share in %
I	100.0

Waterhazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

15.2 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 MSDS: Department: Health, Safety and Environment

Contact: Herr Heine

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

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LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

LD50*: Lethal Dose, 50 percent (Not relevant for classification)

LD50*: Lethal Concentration, 50 percent (Not relevant for classification)

*** Data compared to the previous version altered.**

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