

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** Methylglyoxal 40 % in water**Article number:** 6399**CAS Number:**

78-98-8

EC number:

201-164-8

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**Application of the substance / the mixture**

Laboratory chemical

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

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

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

Xn; Harmful

R22: Harmful if swallowed.

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008**

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

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Hazard pictograms

GHS07

Signal word Warning**Hazard statements**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statements

P280 Wear protective gloves / eye protection.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Additional information:

-

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.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterization: Substances**CAS No. Description**

78-98-8 pyruvaldehyde

Identification number(s)

EC number: 201-164-8

Formula: C₃H₄O₂

Molar mass [g/mol]: 72,06

SECTION 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.

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After skin contact:

Immediately rinse with water.
Seek medical treatment in case of complaints.

After eye contact:

Rinse opened eye for 10 minutes under running water. Then consult a doctor.

After swallowing:

Rinse out mouth and drink a glass of water. Do not induce vomiting.
Call for a doctor immediately and show the container or label.

4.2 Most important symptoms and effects, both acute and delayed

We have no description of any toxic symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 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 the event of fire development of hazardous combustion gases or vapours possible.

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

5.3 Advice for firefighters**Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Do not breathe vapour/spray.

Avoid contact with the eyes and skin.

Ensure adequate ventilation

Wear personal protective equipment.

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.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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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.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Information about fire - and explosion protection:

No special measures required.

7.2 Conditions for safe storage, including any incompatibilities**Storage:****Requirements to be met by storerooms and receptacles:**

Unsuitable material for receptacle: aluminium.

Unsuitable material for receptacle: steel.

Information about storage in one common storage facility:

Store away from foodstuffs.

Further information about storage conditions:

Avoid contact with air / oxygen.

Store receptacle in a well ventilated area.

Keep container tightly sealed.

Recommended storage temperature:

+4 °C

7.3 Specific end use(s)

No further relevant information available.

SECTION 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.

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Respiratory protection:

Use suitable respiratory protective device only when aerosol or mist is formed.
Filter P1 (colour code: white)

Protection of hands:

Protective gloves

Due to missing tests no recommendation to the glove material can be given for the product.

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 gloves

Nitrile, thickness: 0,4 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.

Penetration time of glove material

Value 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 mm

Value for the permeation: Level ≥ 60 min

Eye protection:

Tightly sealed goggles

Body protection:

Protective work clothing

SECTION 9: Physical and chemical properties

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

Form:	Oily
Colour:	Yellow
Odour:	Pungent
Odour threshold:	Not determined.

pH-value: Not applicable.

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Safety data sheet

according to 1907/2006/EC, Article 31

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Version number 2

Revision: 01.07.2014

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Change in condition	
Melting point/Melting range:	-20 °C
Boiling point/Boiling range:	72 °C
Flash point:	Not applicable.
Flammability (solid, gaseous):	Product is not flammable.
Ignition temperature:	265 °C
Decomposition temperature:	Not determined.
Self-igniting:	Not determined.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Oxidizing properties:	No information available.
Vapour pressure at 20 °C:	24 hPa
Density at 20 °C:	1.11 g/cm ³
Relative density	Not determined.
Vapour density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with water:	Soluble.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
9.2 Other information	No further relevant information available.

SECTION 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

Reacts with earth alkaline metals.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials:

various metals

10.6 Hazardous decomposition products:

In case of fire: see item 5.

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SECTION 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.

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

Irritant to skin and mucous membranes.

on the eye:

Irritating effect.

after inhalation:

mucosal irritations

Irritation symptoms in the respiratory tract.

Sensitization:

No sensitizing effects known.

CMR effects:**Germ cell mutagenicity:**

No information available.

Carcinogenicity:

No information available.

Reproductive toxicity:

No information available.

Aspiration hazard:

No information available.

Specific target organ toxicity - single exposure May cause respiratory irritation.**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.

SECTION 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!

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12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects

No further relevant information available.

SECTION 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.

Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 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, IMDG, IATA	
Class	Void
Label	-
ADN/R 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":	
	-

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SECTION 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.

Breakdown regulations:

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.

SECTION 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:

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 Organization

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)

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)

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

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