Safety data sheet
according to Regulation (EC) No. 1907/2006

Printing date 25.10.2013 Version number 2 Revision: 25.10.2013

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

1.1 Product identifier

Trade name: Buffer solution pH 4.62 ±0.02 (20 °C)

Article number: T182

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

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2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
The product is not classified according to the CLP regulation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC Void
Information concerning particular hazards for human and environment:
This product is not hazardous according to EEC directives 67/548/EEC and 1999/45/EC.
Classification system:
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
This product is not hazardous according to EEC directives 67/548/EEC / 1999/45/EC or regulation (EC) No 1272/2008.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 Void

Hazard pictograms Void

Signal word Void

Hazard statements Void

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.

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vPvB: Not applicable.

3 Composition/information on ingredients

3.2 Chemical characterization: Mixtures
Description: Aqueous solution.

Dangerous components:		
CAS: 64-19-7 EINECS: 200-580-7 Index Number: 607-002-00-6 Reg.nr.: 01-2119475328-30-XXXX	acetic acid C R35 R10 Flam. Liq. 3, H226; Met. Corr.1, H290; Skin Corr. 1A, H314	1-≤2.5%

Additional information: For the wording of the listed risk phrases refer to section 16.

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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 skin irritation continues, consult a doctor.

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.
If there is any trouble seek medical help.

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.

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5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:
Use fire extinguishing methods suitable to surrounding conditions.
CO_2, 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.

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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.

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6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
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
Absorb with liquid-binding material (e.g. Rotisorb® Art.-Nr. 1710.1).
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.

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7 Handling and storage

7.1 Precautions for safe handling
No special precautions are necessary if used correctly.

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:
No special requirements.

Information about storage in one common storage facility:
Store away from foodstuffs.

Further information about storage conditions:
None.

Recommended storage temperature: 15 - 25 °C

7.3 Specific end use(s)
No further relevant information available.

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8 Exposure controls/personal protection

Additional information about design of technical facilities:
No further data; see item 7.

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8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:	
64-19-7 acetic acid	
IOELV (EU)	Long-term value: 25 mg/m³, 10 ppm

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:

Not required.

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 gloves
Nitrile, 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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 ≥ 6

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Eye protection:

Tightly sealed goggles

Body protection:
Protective work clothing

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9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information	
Appearance:	
Form:	Fluid
Colour:	Colourless
Odour:	Odourless
Odour threshold:	Not determined.
pH-value at 20 °C:	4.62
Change in condition	
Melting point/Melting range:	<0 °C
Boiling point/Boiling range:	100 °C
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	No information available
Decomposition temperature:	Not determined.
Self-igniting:	Product is not self-igniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	No information available.
Upper:	No information available.
Oxidizing properties:	No information available.
Vapour pressure at 20 °C:	23 hPa
Density at 20 °C:	1.005 g/cm³
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
9.2 Other information	No further relevant information available.

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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
No information available.

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.

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11 Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

64-19-7 acetic acid		
Oral	LD50	3310 mg/kg (rat) (RTECS)
Dermal	LD50	1060 mg/kg (rabbit) (IUCLID)
Inhalative	LC50/4 h	11.4 mg/l (rat) (IUCLID)

Primary irritant effect:

on the skin:
No irritating effect.

on the eye:
No irritating effect.

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
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.

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Additional toxicological information:
When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

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

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12 Ecological information

12.1 Toxicity

Aquatic toxicity:

Fish toxicity:	
64-19-7 acetic acid	
LC50	75 mg/l/96 h (Lepomis macrochirus) (Lit.)

Daphnia toxicity:	
64-19-7 acetic acid	
EC5	2850 mg/l (Pseudomonas putida) (Lit.) 16h
EC50	47 mg/l/24 h (Daphnia magna) (Lit.)

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.

Ecotoxical 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.

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13 Disposal considerations

Waste treatment methods

Recommendation
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.

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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.
Transport/Additional information:	
ADR **Remarks:**	Not subject to transport regulations.
UN "Model Regulation":	-

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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.

Waterhazard class:
Generally not hazardous for water (German regulation).

15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.

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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.

Relevant phrases
H226 Flammable liquid and vapour.
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

R10 Flammable.
R35 Causes severe burns.

Department issuing MSDS: Department: Health, Safety and Environment

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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)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
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
ELINCS: European List of Notified 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)

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