MSDS

Neutralizer (Part Number 17406, 21606)

Version 1.0
Date of issue: 2017-10-20

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

1.1 Product identifier
Product Name: Neutralizer

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

1.3 Details of the supplier of the safety data sheet
Company: TATAA Biocenter
        Odinsgatan 28
        411 03 Göteborg
        Sweden
Phone: +46 31 761 5700
Fax: +46 31 15 28 90
Email: info@tataa.com

1.4 Emergency telephone number
Emergency number: 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
This product does not meet the criteria for classification in any hazard class according to the CLP regulation.

2.2 Label elements
The product does not need labelling according to the CLP regulation.

2.3 Other hazards
None

SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Substance</th>
<th>Concentration</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric Acid</td>
<td>5 - 7 wt%</td>
<td>Serious eye damage/irritation (category 2)</td>
</tr>
<tr>
<td>EC-No.: 201-069-1</td>
<td></td>
<td>H319 Causes serious eye irritation.</td>
</tr>
<tr>
<td>CAS-No.: 77-92-9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page 1 of 8
SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: No action shall be taken involving any personal risk or without suitable training.

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

If on skin: Wash with soap and water. Get medical attention if symptoms occur.

If in eyes: Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur.

If swallowed: Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2 and/or section 11).

4.3 Indication of any immediate medical attention and special treatment needed
No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Use extinguishing media suitable for surrounding fire, for example extinguishing powder, carbon dioxide or foam.

5.2 Special hazards arising from the substance or mixture
No specific hazard.

5.3 Advice for firefighters
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA).

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.

6.2 Environmental precautions
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

6.3 Methods and material for containment and cleaning up
Small spills: Add absorbent. Soil may be used in the absence of other suitable materials. Scoop up material and place in a sealable, liquid-proof container for disposal.

Large spills: Dike spilled material, or otherwise contain material, to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Do not ingest.
Avoid contact with eyes, skin and clothing.
Keep container closed.
Use only with adequate ventilation.
Avoid breathing vapor or mist.
Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed. Keep container in a cool, well-ventilated area.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Product name   CAS-nr.   NGV    KGV
Phosphoric acid 7664-38-2  1 mg/m³  3 mg/m³

8.2 Exposure controls

Appropriate engineering controls:
Use only with adequate ventilation. If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures:
Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash
contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection:
A respirator is not needed under normal and intended conditions of product use.

Hands:
Disposable vinyl gloves are recommended.

Eye protection:
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance:
Liquid

b) Odour:
Not known

c) Odour threshold:
Not applicable

d) pH:
Acidic

e) Melting point/freezing point:
0.1°C

f) Initial boiling point and boiling range:
102.58°C

g) Flash point:
Not measured

h) Evaporation rate:
Not measured

i) Flammability (solid, gas):
Non-flammable

j) Upper/lower flammability or explosive limits:
Not measured

k) Vapour pressure:
2.3 kPa at 20°C
1) Vapour density:
0.62 (Air = 1.0)

m) Relative density:
1.04 (Water = 1.0)

n) Solubility(ies):
Miscible in water.

o) Partition coefficient: n-octanol/water:
Not measured

p) Auto-ignition temperature:
Not measured

q) Decomposition temperature:
Not measured

r) Viscosity:
Not measured

s) Explosive properties:
Not measured

t) Oxidising properties:
Not measured

9.2 Other information
No other information is available.

SECTION 10: Stability and Reactivity

10.1 Reactivity
Not measured

10.2 Chemical stability
The product is stable.

10.3 Possibility of hazardous reactions
No hazardous reactions are known.

10.4 Conditions to avoid
No conditions to avoid are known.

10.5 Incompatible materials
Reactive with oxidizing materials, organic materials and alkalis.

10.6 Hazardous decomposition products
No data available.
SECTION 11: Toxicological information

11.1. Information on toxicological effects

a) Acute toxicity
   - Ingestion:
     Irritating to mouth, throat and stomach.
     
     | Ingredient name | CAS-no. | Test         | Result  | Species |
     |-----------------|---------|--------------|---------|---------|
     | Citric Acid     | 77-92-9 | LD50 Oral    | 5040 mg/kg | Mouse  |
     | Phosphoric acid | 7664-38-2| LD50 Oral    | 1530 mg/kg | Rat    |
     |                 |         | LD50 Dermal  | 2740 mg/kg | Rabbit |

   - Inhalation: Irritating to respiratory system.

b) Skin corrosion/irritation
   Irritating to skin.

c) Serious eye damage/irritation
   Irritating to eyes.

d) Respiratory or skin sensitisation
   No data available.

e) Germ cell mutagenicity
   No known significant effects or critical hazards.

f) Carcinogenicity
   No known significant effects or critical hazards.

g) Reproductive toxicity
   No known significant effects or critical hazards.

h) STOT-single exposure
   No data available

i) STOT-repeated exposure
   No data available

j) Aspiration hazard.
   No data available.

SECTION 12: Ecological information

12.1 Toxicity
   No known significant effects or critical hazards.

12.2 Persistence and degradability
   Products of degradation are carbon oxides, water and phosphates. These are less toxic than the product itself.
12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects
No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

SECTION 14: Transport Information

The product is not classified as dangerous goods according to UN model regulations (IMDG, ADR, RID and ADN)

14.1. UN number
Not applicable.

14.2. UN proper shipping name
Not applicable

14.3. Transport hazard class(es)
Not applicable.

14.4. Packing group
Not applicable.

14.5. Environmental hazards
The product is not classified as environmentally hazardous according to UN model regulations (IMDG, ADR, RID and ADN).

14.6. Special precautions for user
No data available.

14.7. Transport in bulk according to Annex II of Marpol112 and the IBC Code
Not applicable
SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
No legislation specific for the mixture is known.

15.2 Chemical Safety Assessment
The supplier has not carried out a chemical safety assessment for the product.

SECTION 16: Other information
This information is based upon the present state of our knowledge.