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

1.1 Product identifier

Product name: Alka-M-Photometer

Catalog number: 00513211, 513210BT, 513211BT, 4513210BT, 4513211BT, 5132100BT, 00513219BT

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

Application of the substance / the preparation: Reagent for water analysis

1.3 Details of the supplier of the safety data sheet

Supplier:
Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

Tintometer GmbH
Division AQUALYTIC®
Schleefstr. 12
44287 Dortmund
Made in Germany
www.aqualytic.de

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom
phone: +44 1980 664800
e-mail: SDS@tintometer.com

Informing department:
e-mail: sds@tintometer.de
Product Safety Department

1.4 Emergency telephone number:
+44 1235 239670
Languages: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 Void
Hazard pictograms Void
Signal word Void
Hazard statements Void
Additional information:
EUH210 Safety data sheet available on request.

2.3 Other hazards

No further relevant information available.

Results of PBT and vPvB assessment
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
SECTION 3: Composition/information on ingredients

· 3.2 Mixtures
  · Description: Mixture contains organic compounds.
  · Dangerous components:
    | CAS: 124-04-9 | adipic acid |
    | EINECS: 204-673-3 | Index No: 607-144-00-9 |
    | Reg.nr.: 01-2119457561-38-XXXX | Eye Irrit. 2, H319 |
    | 2.5-5% |

· Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures
  · General information Instantly remove any clothing soiled by the product.
  · After inhalation Supply fresh air.
  · After skin contact Instantly wash with water and soap and rinse thoroughly.
  · After eye contact Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.
  · After swallowing Rinse out mouth and then drink 1-2 glasses of water. In case of persistent symptoms consult doctor.
  · 4.2 Most important symptoms and effects, both acute and delayed:
    irritations
    after swallowing of large amounts:
    thirst
    gastric or intestinal trouble
  · 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 Water, Carbon dioxide (CO₂), Foam, Fire-extinguishing powder
  · 5.2 Special hazards arising from the substance or mixture combustible
  Formed of toxic gases is possible during heating or in case of fire.
  nitrous gases
  Sulphur oxides (SOx)
  Nitrogen oxides (NOx)
  Carbon monoxide (CO) and carbon dioxide (CO₂)
  · 5.3 Advice for firefighters
    Protective equipment:
    Wear self-contained breathing apparatus.
    Wear full protective suit.
    · Additional information
      Collect contaminated fire fighting water separately. It must not enter drains.
      Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
      Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures
  · Advice for non-emergency personnel: Wear protective equipment. Keep unprotected persons away.
  · Advice for emergency responders: Protective equipment: see section 8
  · 6.2 Environmental precautions: Do not allow product to reach sewage system or water bodies.
  · 6.3 Methods and material for containment and cleaning up:
    Ensure adequate ventilation.
    Collect mechanically.
    Dispose of contaminated material as waste according to item 13.
  · 6.4 Reference to other sections
    See Section 8 for information on personal protection equipment.
SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
  - **Advice on safe handling:** No special precautions necessary if used correctly.
  - **Hygiene measures:**
    - The usual precautionary measures should be adhered to general rules for handling chemicals.
    - Wash hands during breaks and at the end of the work.
    - Do not eat, drink or smoke when using this product.

- **7.2 Conditions for safe storage, including any incompatibilities**
  - **Storage**
    - **Requirements to be met by storerooms and containers:** Store in cool location.
    - **Information about storage in one common storage facility:** Not required.
  - **Further information about storage conditions:**
    - Protect from heat and direct sunlight.
    - Protect from the effects of light.
    - Store under dry conditions.
    - Protect from humidity and keep away from water.
  - **Recommended storage temperature:** 20°C ± 5°C

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

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
  - **Components with limit values that require monitoring at the workplace:**
    - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **8.2 Exposure controls**
  - **Engineering measures:**
    - Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
    - See item 7.
Personal protective equipment

Breathing equipment: Use breathing protection against the effects of fumes/dust/aerosol.

Recommended filter device for short term use: Filter P1

Protection of hands:
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.

Material of gloves
nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
Penetration time of glove material
Value for the permeation: Level = 1 ( < 10 min )
The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:
Safety glasses
use against the effects of fumes / dust

Body protection: Protective work clothing.

Limitation and supervision of exposure into the environment: Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:
Form / Physical state: Tablets
Colour: Orange

Odour:
Odour: Odourless
Odour threshold: Not applicable

pH-value (8.8 g/l) at 20°C: 3.5

Melting point/Freezing point: Not determined
Initial boiling point and boiling range: Not determined

Flash point: Not determined

Flammability (solid, gas): Not determined.

Decomposition temperature: Not applicable

Auto-ignition temperature: Product is not self-igniting.

Explosive properties: Product is not explosive.
The product is not capable of dust explosion in the form supplied; enrichment with fine dust causes risk of dust explosion

Flammability or explosive limits:
Lower: Not determined.
Upper: Not determined.

Oxidising properties: none

Vapour pressure: Not applicable.
Density: Not determined.
Relative density: Not determined.
Vapour density: Not applicable.
Evaporation rate: Not applicable.

Solubility(ies):
Water: Soluble

Partition coefficient: n-octanol/water: Not applicable.

Viscosity: Not applicable.

Solvent content:
Organic solvents: 0.0 %
Solids content: 100.0 %
9.2 Other information
No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity Dust can combine with air to form an explosive mixture.
10.2 Chemical stability Stable at ambient temperature (room temperature).
10.3 Possibility of hazardous reactions
Reacts with oxidizing agents
--> forms heat
10.4 Conditions to avoid To avoid thermal decomposition do not overheat.
10.5 Incompatible materials: steel
10.6 Hazardous decomposition products: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects
11.2 Acute toxicity Based on available data, the classification criteria are not met.

LD/LC₅₀ values that are relevant for classification:

<table>
<thead>
<tr>
<th>CAS: 124-04-9 adipic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>LD₅₀ 5700 mg/kg (rat) (MERCK)</td>
</tr>
<tr>
<td>Dermal</td>
</tr>
<tr>
<td>LD₅₀ &gt;7940 mg/kg (rabbit) (Registrant, ECHA: no deaths occurred)</td>
</tr>
<tr>
<td>Inhalative</td>
</tr>
<tr>
<td>LC₅₀ 7.7 mg/l/4h (rat) (dust, aerosol) (Registrant, ECHA: no deaths occurred)</td>
</tr>
</tbody>
</table>

Primary irritant effect:
· Skin corrosion/irritation Based on available data, the classification criteria are not met.
· Serious eye damage/irritation Based on available data, the classification criteria are not met.

Information on components:

<table>
<thead>
<tr>
<th>CAS: 124-04-9 adipic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritation of skin OECD 404 (rabbit: no irritation)</td>
</tr>
<tr>
<td>Irritation of eyes OECD 405 (rabbit: severe irritations)</td>
</tr>
</tbody>
</table>

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Information on components:

<table>
<thead>
<tr>
<th>CAS: 124-04-9 adipic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitisation OECD 408 (guinea pig: negative) (IUCLID)</td>
</tr>
</tbody>
</table>

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction) The following statements refer to the mixture:
· Germ cell mutagenicity Based on available data, the classification criteria are not met.
· Carcinogenicity Based on available data, the classification criteria are not met.
· Reproductive toxicity Based on available data, the classification criteria are not met.
· STOT (specific target organ toxicity) -single exposure Based on available data, the classification criteria are not met.
· STOT (specific target organ toxicity) -repeated exposure Based on available data, the classification criteria are not met.
· Aspiration hazard Based on available data, the classification criteria are not met.

Information on components:

<table>
<thead>
<tr>
<th>CAS: 124-04-9 adipic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD 471 (negative) (Bacterial Reverse Mutation Test - Ames test) (IUCLID)</td>
</tr>
<tr>
<td>OECD 474 (negative) (Mammalian Erythrocyte Micronucleus Test)</td>
</tr>
</tbody>
</table>
SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

<table>
<thead>
<tr>
<th>CAS: 124-04-9 adipic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 511 mg/l/48h (gold orfe)</td>
</tr>
<tr>
<td>EC50 86 mg/l/48h (Daphnia magna) (OECD 202)</td>
</tr>
<tr>
<td>IC50 31 mg/l/72h (Desmodesmus subspicatus) (IUCLID)</td>
</tr>
<tr>
<td>LC50 97 mg/l/96h (fathead minnow) (ECOTOX)</td>
</tr>
</tbody>
</table>

Bacterial toxicity:

<table>
<thead>
<tr>
<th>CAS: 124-04-9 adipic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 92 mg/l (Pseudomonas putida) (DIN 38412) (IUCLID)</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>CAS: 124-04-9 adipic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD 301 B 100 % / 28 d (readily biodegradable) (CO2 Evolution Test)</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>CAS: 124-04-9 adipic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>log Pow 0.081 (.) (25°C, OECD 107)</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

No further relevant information available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

12.6 Other adverse effects

Avoid transfer into the environment.

Water hazard:

Do not allow product to reach ground water, water bodies or sewage system. Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

European waste catalogue

16 05 09 discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleaning agent: Water, if necessary with cleaning agent.

SECTION 14: Transport information

14.1 UN-Number

ADR, IMDG, IATA Void

14.2 UN proper shipping name

ADR, IMDG, IATA Void
### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:** None of the ingredients is listed.
  - **Directive 2012/18/EU (SEVESO III):** Named dangerous substances - ANNEX I None of the ingredients is listed.
  - **Regulation (EU) No 649/2012** None of the ingredients is listed.

- **Information about limitation of use:** Not required.

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

### SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
  - H319 Causes serious eye irritation.

- **training hints**
  - Provide adequate information, instruction and training for operators.

- **Abbreviations and acronyms:**
  - OECD: Organisation for Economic Co-operation and Development
  - STOT: specific target organ toxicity
  - SE: single exposure
  - RE: repeated exposure
  - EC50: half maximal effective concentration
  - IC50: half maximal inhibitory concentration
  - NOEL or NOEC: No Observed Effect Level or Concentration
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
  - IMDG: International Maritime Code for Dangerous Goods
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised 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)
  - DNEL: Derived No-Effect Level (REACH)
  - PNEC: Predicted No-Effect Concentration (REACH)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

- **Sources**
  - Data arise from safety data sheets, reference works and literature.
  - Data arise from safety data sheets, reference works and literature.