

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/12/2018

Reviewed on 09/12/2018

## 1 Identification

- **Product identifier**
  - **Trade name:**
  - **Article number:** 4586
  - **Application of the substance / the mixture** Water treatment
  - **Uses advised against**
    - Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).
    - Any use involving aerosol formation or vapour or dust release in excess of the assigned workplace exposure limits where workers are exposed without suitable respiratory protective equipment (RPE).
    - Processes involving extreme heat use advised against.
    - The product is intended exclusively for industrial and professional use.
  - **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:**
- 
- **Information department:** Product safety department.
  - **Emergency telephone number:**

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms** GHS05, GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Sodium 4(or 5)-methyl-1H-benzotriazolide

Hydroxyphosphonoacetic acid trisodium salt

- **Hazard statements**

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

- **Precautionary statements**

Do not breathe dust.

Do not eat, drink or smoke when using this product.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin: Wash with plenty of water.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

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Trade name:

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 3  
Fire = 1  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 3  
Fire = 1  
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

78620-07-2	Hydroxyphosphonoacetic acid trisodium salt	10-25%
3794-83-0	Tetrasodium (1-hydroxyethylidene)bisphosphonate	2.5-10%
7631-95-0	Sodium molybdate	2.5-10%
64665-57-2	Sodium 4(or 5)-methyl-1H-benzotriazolide	2.5-10%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**  
DO NOT DELAY!  
If skin irritation continues, consult a doctor.  
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
DO NOT DELAY!  
Check for and remove any contact lenses.  
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
DO NOT DELAY!  
Rinse out mouth and then drink plenty of water.  
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.  
Immediately call a doctor.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:** Treat symptomatically and supportively.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:**  
Do not inhale explosion gases or combustion gases.  
Wear self-contained respiratory protective device.  
Wear fully protective suit.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Avoid formation of dust.  
Ensure adequate ventilation  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Do not allow to penetrate the ground/soil.  
Do not allow product to reach sewage system or any water course in the undiluted form.
- **Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Send for recovery or disposal in suitable receptacles.  
Ensure adequate ventilation.
- **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.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

7631-95-0	Sodium molybdate	3.2 mg/m <sup>3</sup>
64665-57-2	Sodium 4(or 5)-methyl-1H-benzotriazolide	1.9 mg/m <sup>3</sup>
371-47-1	disodium maleate	13 mg/m <sup>3</sup>

- **PAC-2:**

7631-95-0	Sodium molybdate	17 mg/m <sup>3</sup>
64665-57-2	Sodium 4(or 5)-methyl-1H-benzotriazolide	21 mg/m <sup>3</sup>
371-47-1	disodium maleate	150 mg/m <sup>3</sup>

- **PAC-3:**

7631-95-0	Sodium molybdate	100 mg/m <sup>3</sup>
64665-57-2	Sodium 4(or 5)-methyl-1H-benzotriazolide	130 mg/m <sup>3</sup>
371-47-1	disodium maleate	880 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.

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**Trade name:**

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Prevent formation of dust.

Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.

Safety showers and eye wash facilities should be available at the work area.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Prevent any seepage into the ground.

Do not store in aluminium, copper, zinc containers.

- **Information about storage in one common storage facility:**

Store away from oxidizing agents.

Do not store together with acids.

- **Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

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

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

7631-95-0 Sodium molybdate	
PEL	Long-term value: 5 mg/m <sup>3</sup> as Mo
TLV	Long-term value: 0.5 mg/m <sup>3</sup> as Mo; respirable fraction

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Do not breath dust

Do not eat, drink, smoke or sniff while working.

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.

Take note of assigned Workplace Exposure Limits.

- **Breathing equipment:**

Use suitable respiratory protective device in case of insufficient ventilation.

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

- **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

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- **Material of gloves**

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**

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

- **Eye protection:**



Tightly sealed goggles

- **Body protection:**

Impervious protective clothing

Body protection must be chosen depending on product properties, activity and possible exposure.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

**Form:** Solid  
**Color:** Whitish

- **Odor:** Mild

- **Odor threshold:** Not determined.

- **pH-value (10 g/l) at 20 °C (68 °F):** 7-7.5

- **Change in condition**

**Melting point/Melting range:** Undetermined.  
**Boiling point/Boiling range:** Undetermined.

- **Flash point:** >93 °C (>199.4 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

**Lower:** Not determined.  
**Upper:** Not determined.

- **Vapor pressure:** Not determined.

- **Density:** Not determined.

- **Relative density** Not determined.

- **Vapor 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.

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Trade name:

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- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>Solvent content:</b></li> <li>· <b>VOC content:</b></li> <li>· <b>Other information</b></li> </ul> | <p>0.0 g/l / 0.00 lb/gl</p> <p>NOTE: The physical data presented above are typical values and should not be construed as a specification.</p> |
|--|---|

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**  
Strong oxidising agents.  
Strong acids.
- **Hazardous decomposition products:**  
Phosphorus compounds  
Carbon monoxide and carbon dioxide  
Nitrogen oxides (NOx)

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
 ROUTES OF EXPOSURE: The component substances can variously be absorbed into the body by inhalation and by ingestion.  
 The product shows the following dangers according to internally approved calculation methods for preparations:  
 Harmful  
 Corrosive  
 Irritant  
 Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>
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None of the ingredients is listed.
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· <b>NTP (National Toxicology Program)</b>
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None of the ingredients is listed.
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· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
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None of the ingredients is listed.
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### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** The organic portion of the product is biodegradable.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** Product is not expected to bioaccumulate.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**  
 Water hazard class 1 (Self-assessment): slightly hazardous for water  
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
 Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
 Recommended Hierarchy of Controls:
  - Minimise waste;
  - Reuse if not contaminated;
  - Recycle, if possible; or
  - Safe disposal (if all else fails).
 Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
 Contact waste processors for recycling information.  
 Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.
- **Uncleaned packagings:**
- **Recommendation:**  
 Disposal must be made according to official regulations.  
 Container remains hazardous when empty. Continue to observe all precautions.  
 Containers, even those that are "empty," may contain residues that can develop hazardous gases and vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- |   |
|---|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, ADR, ADN, IMDG, IATA</b>                      Void</li> </ul>  |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT, ADR, ADN, IMDG, IATA</b>                      Void</li> </ul>  |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT, ADR, ADN, IMDG, IATA</b></li> <li>· <b>Class</b>    Void</li> </ul> |

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· <b>Packing group</b> · <b>DOT, ADR, IMDG, IATA</b>	Void
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	Not dangerous according to the above specifications.
· <b>UN "Model Regulation":</b>	Void

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· <b>Section 355 (extremely hazardous substances):</b>
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7601-54-9	Trisodium orthophosphate
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· <b>Section 313 (Specific toxic chemical listings):</b>
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7601-54-9	Trisodium orthophosphate
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· <b>TSCA (Toxic Substances Control Act):</b>
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78620-07-2	Hydroxyphosphonoacetic acid trisodium salt
------------	--

3794-83-0	Tetrasodium (1-hydroxyethylidene)bisphosphonate
-----------	---

7631-95-0	Sodium molybdate
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180513-31-9	Phosphonic acid, reaction products with maleic anhydride, sodium salts
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40372-66-5	2-phosphonobutane-1,2,4-tricarboxylic acid, sodium salt
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64665-57-2	Sodium 4(or 5)-methyl-1H-benzotriazolide
------------	--

371-47-1	disodium maleate
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7601-54-9	Trisodium orthophosphate
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7732-18-5	Water
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· <b>TSCA new (21st Century Act) (Substances not listed)</b>
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78620-07-2	Hydroxyphosphonoacetic acid trisodium salt
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· <b>Proposition 65</b>
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· <b>Chemicals known to cause cancer:</b>
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None of the ingredients is listed.
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· <b>Chemicals known to cause reproductive toxicity for females:</b>
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None of the ingredients is listed.
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· <b>Chemicals known to cause reproductive toxicity for males:</b>
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None of the ingredients is listed.
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· <b>Chemicals known to cause developmental toxicity:</b>
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None of the ingredients is listed.
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· <b>Carcinogenicity categories</b>
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· <b>EPA (Environmental Protection Agency)</b>
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None of the ingredients is listed.
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· <b>TLV (Threshold Limit Value established by ACGIH)</b>
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None of the ingredients is listed.
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· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>
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None of the ingredients is listed.
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**Trade name:**

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- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS05, GHS07
- **Signal word** Danger
- **Hazard-determining components of labeling:**  
Sodium 4(or 5)-methyl-1H-benzotriazolide  
Hydroxyphosphonoacetic acid trisodium salt
- **Hazard statements**  
Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.
- **Precautionary statements**  
Do not breathe dust.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If swallowed: Rinse mouth. Do NOT induce vomiting.  
If on skin: Wash with plenty of water.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.
- **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.

- **Date of preparation / last revision** 09/12/2018 / -
- **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  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
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)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
Skin Sens. 1: Skin sensitisation – Category 1

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