Sodium Hypophosphite Monohydrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 03/18/2015  Supersedes: 02/26/2015

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

1.1. Product identifier

| Product form | Substance
| Substance name | Sodium Hypophosphite Monohydrate
| Chemical name | Sodium Phosphinate, Monohydrate
| CAS No | 10039-56-2
| Product code | M601
| Formula | NaH2PO2.H2O
| Synonyms | hypophosphorous acid monosodium salt, monohydrate / monosodium hypophosphite, monohydrate / phosphinic acid monosodium salt, monohydrate / phosphinic acid, Na-salt, monohydrate / phosphinic acid, sodium salt, monohydrate / sodium hydrogen phosphate, monohydrate / sodium hydrophosphite, monohydrate / sodium hypophosphite, monohydrate

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

Use of the substance/mixture: Industrial use

1.3. Details of the supplier of the safety data sheet

Special Materials Company
70 West 40th Street, 2nd Floor
New York, NY 10018

1.4. Emergency telephone number

Emergency number: CHEMTREC - (800) 424-9300 | Outside the US: (703) 527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)
Not classified

2.2. Label elements

GHS-US labeling
Hazard statements (GHS-US): Not classified as dangerous preparation/substance
Precautionary statements (GHS-US): May cause eye, skin and respiratory system irritation
May cause gastric irritation
Not classified as dangerous preparation/substance

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

| Name | Product identifier | % | Classification (GHS-US) |
| Sodium Hypophosphite Monohydrate | (CAS No) 10039-56-2 | 100 | Not classified |

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

4.1. Description of first aid measures

## Sodium Hypophosphite Monohydrate Safety Data Sheet

### First-aid measures after inhalation
Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

### First-aid measures after skin contact
Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists. Wash skin with plenty of water.

### First-aid measures after eye contact
Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.

### First-aid measures after ingestion

### 4.2. Most important symptoms and effects, both acute and delayed

#### Symptoms/injuries after eye contact
Slight irritation.

### 4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media
- Water spray
- Polyevalent foam
- Alcohol-resistant foam
- ABC powder
- Carbon dioxide

#### Unsuitable extinguishing media
- No unsuitable extinguishing media known.

### 5.2. Special hazards arising from the substance or mixture

#### Fire hazard
INDIRECT FIRE HAZARD. Reactions involving a fire hazard: see "Reactivity Hazard".

#### Explosion hazard
DIRECT EXPLOSION HAZARD. Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD. Dust cloud can be ignited by a spark. Reactions with explosion hazards: see "Reactivity Hazard".

#### Reactivity
- On heating: release of toxic/corrosive/combustible gases/vapours (phosphine).
- On burning: release of toxic and corrosive gases/vapours (phosphorus oxides). Violent to explosive reaction with (strong) oxidizers and with (some) halogens.

### 5.3. Advice for firefighters

#### Precautionary measures fire
Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

#### Firefighting instructions
- Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.

#### Protection during firefighting
Heat/fire exposure: compressed air/oxygen apparatus. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel
- Emergency procedures: Mark the danger area. Prevent dust cloud formation. No naked flames. Wash contaminated clothes.

#### For emergency responders
- Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions
Avoid release to the environment. Prevent soil and water pollution. Prevent spreading in sewers.

### 6.3. Methods and material for containment and cleaning up
- For containment: Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray. Take account of toxic/corrosive precipitation water. Powdered form: no compressed air for pumping over spills. On heating: dilute combustible/toxic gases/vapours.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in a well-ventilated place. Keep cool.
Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. halogens. water/moisture.
Storage area: Store in a dry area. Keep container in a well-ventilated place. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: closing. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Sodium Hypophosphite Monohydrate (10039-56-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
</tr>
<tr>
<td>OSHA</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls: Ensure good ventilation of the work station.
Materials for protective clothing: GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: No data available. GIVE LESS RESISTANCE: No data available. GIVE POOR RESISTANCE: No data available.
Hand protection: Gloves.
Skin and body protection: Protective clothing.
Respiratory protection: Dust production: dust mask with filter type P1. On heating: gas mask with filter type B.
Environmental exposure controls: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Crystalline solid. Grains.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>105.99 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>6 - 8 (5 %)</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH solution</td>
<td>5 %</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>&gt; 238 °C Decomposes</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt; 238 °C</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.77</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>9.2. Other information</td>
<td></td>
</tr>
<tr>
<td>VOC content</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Other properties</td>
<td>Hygroscopic</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability
Hygroscopic.

10.3. Possibility of hazardous reactions
May decompose violently at high temperature and/or pressure or in the presence of a catalyst.

10.4. Conditions to avoid
Generation of airborne dust. Extremely high temperatures. Do not expose to heat.

10.5. Incompatible materials
Strong acids. Strong oxidizers.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Not classified

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hypophosphite Monohydrate (f)10039-56-2</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat*</td>
<td>5556 mg/kg (Rat)</td>
</tr>
<tr>
<td>Skin corrosion/irritation*</td>
<td>Irritation, skin, rabbit: non-irritant/ non-corrosive</td>
</tr>
<tr>
<td></td>
<td>pH: 6 - 8 (5 %)</td>
</tr>
<tr>
<td>Serious eye damage/irritation*</td>
<td>Irritation, eye rabbit: non-irritant</td>
</tr>
<tr>
<td></td>
<td>pH: 6 - 8 (5 %)</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
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Carcinogenicity: Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity (single exposure): Not classified
Specific target organ toxicity (repeated exposure): Not classified
Aspiration hazard: Not classified
Symptoms/injuries after eye contact: Slight irritation.

*According to the criteria in EU regulation (EC) n°1272/2008 (CLP) and EU Directive 67/548/EEC:
approx. LD50: <= 5000 mg/kg bw (female) (limit test: mortality 6/10)
approx. LD50: > 5000 mg/kg bw (male) (limit test: mortality 3/10)

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Ecology - air: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

**Sodium Hypophosphite Monohydrate (10039-56-2)**

<table>
<thead>
<tr>
<th>LC50 fish 1</th>
<th>&gt; 100 mg/l Brachydanio rerio</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 other aquatic organisms 1</td>
<td>&gt; 100 mg/l Pseudokirchnerella subcapitata</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>&gt; 100 mg/l</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

**Sodium Hypophosphite Monohydrate (10039-56-2)**

<table>
<thead>
<tr>
<th>Persistence and degradability</th>
<th>No data available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>ThOD</td>
<td>Not applicable</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

**Sodium Hypophosphite Monohydrate (10039-56-2)**

<table>
<thead>
<tr>
<th>Bioaccumulative potential</th>
<th>Not bioaccumulative.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBT and vPvB assessment: does not apply to inorganic substances.</td>
<td></td>
</tr>
<tr>
<td>Other effects: There is sufficient weight of evidence for the absence of bioaccumulation potential to aquatic organisms from the existing properties of sodium hypophosphite.</td>
<td></td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
Effect on ozone layer:

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with DOT
Not regulated for transport
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.
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Additional information

Other information: No supplementary information available.

ADR

Not regulated for transport
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

Transport by sea, IMO

Not regulated for transport
Non-Hazardous for Sea Transport: This substance is considered to be non-hazardous for sea transport.

Air transport, IATA

Not regulated for transport
Non-Hazardous for Air Transport: This substance is considered to be non-hazardous for air transport.

SECTION 15: Regulatory information

15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Sodium Hypophosphite Monohydrate (10039-56-2)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ (Reportable quantity, section 304 of EPA's List of Lists)</td>
<td>None known</td>
</tr>
<tr>
<td>SARA Section 302 Threshold Planning Quantity (TPQ)</td>
<td>None known</td>
</tr>
<tr>
<td>SARA Section 311/312 Hazard Classes</td>
<td>None</td>
</tr>
<tr>
<td>SARA Section 313 - Emission Reporting</td>
<td>None known</td>
</tr>
</tbody>
</table>

15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Not classified

15.2.2. National regulations

<table>
<thead>
<tr>
<th>Sodium Hypophosphite Monohydrate (10039-56-2)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory</td>
<td></td>
</tr>
</tbody>
</table>

15.3. US State regulations
No additional information available

SECTION 16: Other information

SDS US (GHS HazCom 2012)

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.