



# 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	: NaH <sub>2</sub> PO <sub>2</sub> .H <sub>2</sub> O
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 phosphite, 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
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#### 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
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### 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 (Main constituent)	(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

First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.
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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	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Victim is fully conscious: immediately induce vomiting. Call Poison Information Centre ( <a href="http://www.big.be/antigif.htm">www.big.be/antigif.htm</a> ). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Call a poison center/doctor/physician if you feel unwell.

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

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

#### 6.1.1. For non-emergency personnel

Protective equipment	: Gloves. Safety glasses. Protective clothing. Dust cloud production: compressed air/oxygen apparatus.
Emergency procedures	: Mark the danger area. Prevent dust cloud formation. No naked flames. Wash contaminated clothes. In case of reactivity hazard: consider evacuation.
Measures in case of dust release	: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows. Dust production: stop engines and no smoking. In case of dust production: no naked flames or sparks. Dust: spark-/explosionproof appliances/lighting equipment.

#### 6.1.2. 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".
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### 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.
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- Methods for cleaning up : Recover mechanically the product. Prevent dust cloud formation. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Powdered: do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
- 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

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Comply with the legal requirements. Clean contaminated clothing. Keep the substance free from contamination. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Powdered form: no compressed air for pumping over. Avoid raising dust. Keep away from naked flames/heat. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Reduce/avoid exposure and/or contact. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.
- 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.
- Incompatible materials : Heat sources. Strong acids. Strong oxidizers.
- 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

Sodium Hypophosphite Monohydrate (10039-56-2)	
ACGIH	Not applicable
OSHA	Not applicable

### 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.
- Eye protection : Safety glasses. In case of dust production: protective goggles. Safety glasses.
- 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

- Physical state : Solid
- Appearance : Crystalline solid. Grains.
- Molecular mass : 105.99 g/mol
- Color : White
- Odor : Odourless
- Odor threshold : No data available
- pH : 6 - 8 (5 %)

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pH solution	: 5 %
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: > 238 °C Decomposes
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: > 238 °C
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 1.77
Solubility	: Soluble in water. Water: 100 g/100ml
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

VOC content	: Not applicable
Other properties	: Hygroscopic.

## SECTION 10: Stability and reactivity

### 10.1. 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.

### 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

Phosphine. Toxic fumes. Phosphorous oxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
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#### Sodium Hypophosphite Monohydrate ( l f )10039-56-2

LD50 oral rat*	5556 mg/kg (Rat)
Skin corrosion/irritation*	: Irritation, skin, rabbit: non-irritant/ non-corrosive pH: 6 - 8 (5 %)
Serious eye damage/irritation*	: Irritation, eye rabbit: non-irritant pH: 6 - 8 (5 %)
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified

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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).
Ecology - water	: Water pollutant (surface water). Maximum concentration in drinking water: 200 mg/l (sodium) (Directive 98/83/EC). Slightly harmful to invertebrates (Daphnia). Insufficient data available on ecotoxicity.

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LC50 fish 1	> 100 mg/l Brachydanio rerio
LC50 other aquatic organisms 1	> 100 mg/l Pseudokirchnerella subcapitata
EC50 Daphnia 1	> 100 mg/l

#### 12.2. Persistence and degradability

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

Persistence and degradability	No data available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

#### 12.3. Bioaccumulative potential

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

Bioaccumulative potential	Not bioaccumulative.
PBT and vPvB assessment: does not apply to inorganic substances.	
Other effects: There is sufficient weight of evidence for the absence of bioaccumulation potential to aquatic organisms from the existing properties of sodium hypophosphite.	

#### 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

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

### 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

Sodium Hypophosphite Monohydrate (10039-56-2)
All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory

### 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.*