



# SAFETY DATA SHEET SODIUM HYPOPHOSPHITE REVISION 5, DATE 05 APR 22

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Sodium hypophosphite</b>
<b>Other Names</b>	Phosphinic acid, sodium salt, monohydrate
<b>Uses</b>	Industrial use; Reducing agent; Electroless nickel plating; Food additive.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	NaH <sub>2</sub> PO <sub>2</sub> .H <sub>2</sub> O
<b>Chemical Name</b>	Sodium hypophosphite, monohydrate
<b>Product Description</b>	No Data Available

### Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

### Emergency Contact Details

*For emergencies only; DO NOT contact these companies for general product advice.*

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

## 2. HAZARD IDENTIFICATION

**Poisons Schedule (Aust)**

Not Scheduled



## Globally Harmonised System

**Hazard Classification** NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**Signal Word** None

## National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

**Dangerous Goods Classification** NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

## Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Sodium hypophosphite, monohydrate	NaH <sub>2</sub> PO <sub>2</sub> .H <sub>2</sub> O	10039-56-2	100 %

## 4. FIRST AID MEASURES

## Description of necessary measures according to routes of exposure

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth, then drink plenty of water. Do not induce vomiting unless directed to do so by medical personnel. Call a Poison Centre or doctor/physician for advice if a large quantity is ingested or if you feel unwell.
<b>Eye</b>	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for 5 - 15 minutes. If eye irritation persists, get medical advice/attention. *Do not apply neutralizing agents.
<b>Skin</b>	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention. *Do not apply (chemical) neutralizing agents.
<b>Inhaled</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing until recovered. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
<b>Advice to Doctor</b>	Treat symptomatically.
<b>Medical Conditions Aggravated by Exposure</b>	No information available.

## 5. FIRE FIGHTING MEASURES

<b>General Measures</b>	Consider evacuation! If safe to do so, move undamaged containers from fire area. Do not move the load if exposed to heat. Cool containers and dilute toxic gases with water spray until well after fire is out.
<b>Flammability Conditions</b>	Non-combustible material.
<b>Extinguishing Media</b>	If material is involved in a fire, use dry chemical, Carbon dioxide (CO <sub>2</sub> ), foam or water spray for extinction - Do not use water jets.

<b>Fire and Explosion Hazard</b>	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Dust cloud can be ignited by a spark!
<b>Hazardous Products of Combustion</b>	Decomposes on heating, emitting toxic fumes, including oxides of phosphorus and phosphine.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control water - Runoff may cause pollution.
<b>Personal Protective Equipment</b>	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
<b>Flash Point</b>	No Data Available
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available
<b>Hazchem Code</b>	No Data Available

## 6. ACCIDENTAL RELEASE MEASURES

<b>General Response Procedure</b>	Ensure adequate ventilation. ELIMINATE all ignition sources (no smoking, flares, sparks or flame). Do not touch or walk through spilled material. Avoid dust formation. Avoid breathing dust and contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal (see SECTION 13).
<b>Containment</b>	Stop leak if you can do it without risk. Prevent dust cloud. Prevent entry into waterways, sewers, basements or confined areas.
<b>Decontamination</b>	Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
<b>Environmental Precautionary Measures</b>	Prevent entry into soils, drains and waterways.
<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind.
<b>Personal Precautionary Measures</b>	Use personal protective equipment as required (see SECTION 8).

## 7. HANDLING AND STORAGE

<b>Handling</b>	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid dust formation. Avoid breathing dust and contact with eyes, skin and clothing. Use personal protective equipment as required (see SECTION 8). WARNING: May form combustible dust concentrations in air. Keep away from heat and sources of ignition - No smoking. Take precautionary measures against static discharge.
<b>Storage</b>	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect from water/moisture (hygroscopic). Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10).
<b>Container</b>	Keep in the original, properly labelled container.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>General</b>	No value assigned for this specific material by Safe Work Australia. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m <sup>3</sup> (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m <sup>3</sup> (total); TWA = 3 mg/m <sup>3</sup> (respirable).
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.

<b>Engineering Measures</b>	<p>A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.</p> <p>*Use explosion-proof electrical/ventilating/lighting equipment.</p>
<b>Personal Protection Equipment</b>	<p>- Respiratory protection: Wear respiratory protection in case of inadequate ventilation or dust production. Recommended: P1 dust mask/respirator (refer to AS/NZS 1715 &amp; 1716). On heating, gas mask with filter type B.</p> <p>- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses or goggles (in case of dust production).</p> <p>- Hand protection: Handle with gloves. Recommended: Impervious gloves.</p> <p>- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes.</p>
<b>Special Hazards Precautions</b>	No information available.
<b>Work Hygienic Practices</b>	Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Take off contaminated clothing and wash it before reuse. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Solid
<b>Appearance</b>	Crystalline powder or granular
<b>Odour</b>	Odourless
<b>Colour</b>	White
<b>pH</b>	6 - 8 5 % soln.
<b>Vapour Pressure</b>	No Data Available
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	Decomposes
<b>Melting Point</b>	No Data Available
<b>Freezing Point</b>	No Data Available
<b>Solubility</b>	Soluble in water
<b>Specific Gravity</b>	1.77
<b>Flash Point</b>	No Data Available
<b>Auto Ignition Temp</b>	No Data Available
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	>238 °C
<b>Density</b>	No Data Available
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	105.99 g/mol
<b>Net Propellant Weight</b>	No Data Available
<b>Octanol Water Coefficient</b>	No Data Available
<b>Particle Size</b>	No Data Available
<b>Partition Coefficient</b>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	No Data Available
<b>Volatile Percent</b>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	No information available.

<b>Potential for Dust Explosion</b>	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Dust cloud can be ignited by a spark!
<b>Fast or Intensely Burning Characteristics</b>	No information available.
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No information available.
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No information available.
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	Non-combustible material.
<b>Reactions That Release Gases or Vapours</b>	Decomposes on heating, emitting toxic fumes, including oxides of phosphorus and phosphine.
<b>Release of Invisible Flammable Vapours and Gases</b>	Heating of aqueous solutions during evaporation may result in explosions due to the formation of phosphine gas. Reaction of iodine with the anhydrous salt is violently exothermic and can cause ignition. Heating mixtures with perchloric acid, perchlorates, chlorates and nitrates results in an explosion.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	May decompose violently at high temperature and/or pressure or in the presence of a catalyst. Violent to explosive reaction with (strong) oxidisers and with (some) halogens.
<b>Chemical Stability</b>	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
<b>Conditions to Avoid</b>	Avoid dust formation. Keep away from heat and sources of ignition. Protect from water/moisture (hygroscopic).
<b>Materials to Avoid</b>	Incompatible/reactive with oxidising agents, strong acids, alkalis, chlorates, nitrates, halogens.
<b>Hazardous Decomposition Products</b>	Decomposes on heating, emitting toxic fumes, including oxides of phosphorus and phosphine.
<b>Hazardous Polymerisation</b>	Will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	Information on possible routes of exposure: - Ingestion: No adverse health effects expected; May cause gastrointestinal irritation; Large amounts may cause nausea and vomiting. - Eye contact: May cause slight physical irritation/discomfort. - Skin contact: May cause slight physical irritation, particularly with prolonged or repeated skin contact. - Inhalation: May cause slight respiratory irritation. Chronic effects: No information available.
<b>Acute</b>	
<b>Ingestion</b>	Acute toxicity (Oral): - LD50, Rat: 5,556 mg/kg [Supplier's SDS].
<b>Carcinogen Category</b>	None

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Aquatic toxicity: - LC50, Fish (Brachydanio rerio): >100 mg/l - LC50, Algae/other aquatic plants (Pseudokirchneriella subcapitata): >100 mg/l - EC50, Crustacea (Daphnia): >100 mg/l
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\*The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

<b>Persistence/Degradability</b>	No information available.
<b>Mobility</b>	No information available.
<b>Environmental Fate</b>	Prevent entry into soils, drains and waterways.
<b>Bioaccumulation Potential</b>	Not bioaccumulative.
<b>Environmental Impact</b>	No Data Available

### 13. DISPOSAL CONSIDERATIONS

<b>General Information</b>	Dispose of contents/container in a safe manner and in accordance with local/regional/national regulations.
<b>Special Precautions for Land Fill</b>	Normally suitable for disposal at an approved landfill site.

### 14. TRANSPORT INFORMATION

#### Land Transport (Australia)

ADG Code

<b>Proper Shipping Name</b>	Sodium hypophosphite
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

#### Land Transport (Malaysia)

ADR Code

<b>Proper Shipping Name</b>	Sodium hypophosphite
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

#### Land Transport (New Zealand)

NZS5433

<b>Proper Shipping Name</b>	Sodium hypophosphite
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available

	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Land Transport (United States of America)**

US DOT

<b>Proper Shipping Name</b>	Sodium hypophosphite
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Sea Transport**

IMDG Code

<b>Proper Shipping Name</b>	Sodium hypophosphite
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>EMS</b>	No Data Available
<b>Marine Pollutant</b>	No
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for SEA transport.

**Air Transport**

IATA DGR

<b>Proper Shipping Name</b>	Sodium hypophosphite
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for AIR transport.

**National Transport Commission (Australia)**

Australian Code for the Transport of Dangerous Goods by Road &amp; Rail (ADG Code)

<b>Dangerous Goods Classification</b>	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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**15. REGULATORY INFORMATION**

**General Information** No Data Available

**Poisons Schedule (Aust)** Not Scheduled

**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

**Approval Code** Not Hazardous

**National/Regional Inventories**

<b>Australia (AIIC)</b>	Listed
<b>Canada (DSL)</b>	Not Determined
<b>Canada (NDSL)</b>	Not Determined
<b>China (IECSC)</b>	Not Determined
<b>Europe (EINECS)</b>	600-090-7
<b>Europe (REACH)</b>	Not Determined
<b>Japan (ENCS/METI)</b>	Not Determined
<b>Korea (KECI)</b>	Not Determined
<b>Malaysia (EHS Register)</b>	Not Determined
<b>New Zealand (NZIoC)</b>	Listed
<b>Philippines (PICCS)</b>	Not Determined
<b>Switzerland (Giftliste 1)</b>	Not Determined
<b>Switzerland (Inventory of Notified Substances)</b>	Not Determined
<b>Taiwan (NCSR)</b>	Not Determined
<b>USA (TSCA)</b>	Not Determined

**16. OTHER INFORMATION**

**Related Product Codes** SOHYPO1000, SOHYPO1001, SOHYPO1002, SOHYPO1003, SOHYPO1004, SOHYPO1005, SOHYPO1006, SOHYPO1007, SOHYPO1008, SOHYPO1009, SOHYPO1010, SOHYPO1011, SOHYPO1012, SOHYPO1013, SOHYPO1014, SOHYPO1800, SOHYPO2000, SOHYPO2100, SOHYPO2200, SOHYPO2201, SOHYPO2300, SOHYPO2500, SOHYPO2501, SOHYPO2510, SOHYPO2700, SOHYPO3000, SOHYPO4000, SOHYPO5000, SOHYPO6000, SOHYPO7000, SOHYPO8000

**Revision** 5

**Revision Date** 05 Apr 2022



## Key/Legend

< Less Than  
 > Greater Than  
**AICS** Australian Inventory of Chemical Substances  
**atm** Atmosphere  
**CAS** Chemical Abstracts Service (Registry Number)  
**cm<sup>2</sup>** Square Centimetres  
**CO<sub>2</sub>** Carbon Dioxide  
**COD** Chemical Oxygen Demand  
**deg C (°C)** Degrees Celcius  
**EPA (New Zealand)** Environmental Protection Authority of New Zealand  
**deg F (°F)** Degrees Farenheit  
**g** Grams  
**g/cm<sup>3</sup>** Grams per Cubic Centimetre  
**g/l** Grams per Litre  
**HSNO** Hazardous Substance and New Organism  
**IDLH** Immediately Dangerous to Life and Health  
**immiscible** Liquids are insoluable in each other.  
**inHg** Inch of Mercury  
**inH<sub>2</sub>O** Inch of Water  
**K** Kelvin  
**kg** Kilogram  
**kg/m<sup>3</sup>** Kilograms per Cubic Metre  
**lb** Pound  
**LC<sub>50</sub>** LC stands for lethal concentration. LC<sub>50</sub> is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.  
**LD<sub>50</sub>** LD stands for Lethal Dose. LD<sub>50</sub> is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.  
**ltr or L** Litre  
**m<sup>3</sup>** Cubic Metre  
**mbar** Millibar  
**mg** Milligram  
**mg/24H** Milligrams per 24 Hours  
**mg/kg** Milligrams per Kilogram  
**mg/m<sup>3</sup>** Milligrams per Cubic Metre  
**Misc or Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.  
**mm** Millimetre  
**mmH<sub>2</sub>O** Millimetres of Water  
**mPa.s** Millipascals per Second  
**N/A** Not Applicable  
**NIOSH** National Institute for Occupational Safety and Health  
**NOHSC** National Occupational Heath and Safety Commission  
**OECD** Organisation for Economic Co-operation and Development  
**Oz** Ounce  
**PEL** Permissible Exposure Limit  
**Pa** Pascal  
**ppb** Parts per Billion  
**ppm** Parts per Million  
**ppm/2h** Parts per Million per 2 Hours  
**ppm/6h** Parts per Million per 6 Hours  
**psi** Pounds per Square Inch  
**R** Rankine  
**RCP** Reciprocal Calculation Procedure  
**STEL** Short Term Exposure Limit  
**TLV** Threshold Limit Value  
**tne** Tonne  
**TWA** Time Weighted Average  
**ug/24H** Micrograms per 24 Hours  
**UN** United Nations  
**wt** Weight