

# HYGROTECH

SUSTAINABLE SOLUTIONS

## MATERIAL SAFETY DATA SHEET

No:  
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### COMPANY DETAILS

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### 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name: HYGROPHOS 400	Chemical abstract no:
Chemical family: Inorganic Salt	NIOSH no.
Chemical name: Potasium Phosphite	Hazchem code:
Synonyms: Mono- and Di Potassium Phosphite	UN no: Not classified

### 2. COMPOSITION

Hazardous components:	
EEC classification:	Corrosive
R Phases:	R22, 34

### 3. HAZARDS IDENTIFICATION

Main hazard:	Main entry routes include inhalation of spray mists and contact with skin and/ or eyes.
Flammability:	Only flammable in excess of 100 °C.
Chemical hazard:	Corrosive.
Biological hazard:	
Reproductive hazard:	No evidence.
Eye effects:	Contact with eyes will lead to tearing, pain, reddening and irritation.
Health effects – skin:	Contact with skin may cause irritation and reddening of exposed tissue.
Health effects – ingestion:	Ingestion will lead to irritation of the throat, oesophagus and other tissue of the digestive system. This may lead to coughing, nausea, vomiting and diarrhoea.
Health effects – inhalation:	Inhalation of sprays or mists of this solution may be irritating to the nose, throat and exposed mucous membranes.
Carcinogenicity:	Not carcinogenic.
Mutagenicity:	Not mutagenic.
Neurotoxicity:	Not neurogenic.

4. FIRST AID MEASURES	
<b>INHALATION:</b>	Allow the patient to rest in a well-ventilated area. If necessary use artificial respiration to support vital functions. Remove or cover exposed contaminated area to avoid exposure to rescuers.
<b>CONTACT WITH SKIN:</b>	Decontaminate the affected area with running water. Minimum recommended flushing time is 15 minutes, especially if an adverse skin reaction occurs.
<b>CONTACT WITH EYES:</b>	IMMEDIATELY flush with running water for at least 15 minutes, keeping eyelids open. COLD water must be used.
<b>INGESTION:</b>	If this product is swallowed, CALL A PHYSICIAN OR POISON CONTROL CENTRE FOR MOST CURRENT INFORMATION. Do not induce vomiting. The patient should drink milk, egg whites or large quantities of water.
<b>ADDITIONAL INFORMATION:</b> Contaminated individuals must be taken for medical attention if adverse reaction occurs. Rescuers should be taken for medical attention if necessary. Take a copy of the label and MSDS to Physician or health professional with victim.	

5. FIRE-FIGHTING MEASURES	
<b>EXTINGUISHING METHODS:</b>	Water spray, carbon dioxide, foam, dry chemicals, halon and any other "ABC" Class.
<b>SPECIAL EXPOSURE HAZARDS:</b>	When involved in a fire and exposed to extremely high temperatures, the components of this product will decompose to produce irritating vapours and toxic gasses (e.g., phosphorous oxides, phosphine, carbon monoxide, ammonia and carbon dioxide).
<b>SPECIAL PROTECTIVE EQUIPMENT:</b>	Incipient fire responders should wear eye protection. Structural fire fighters must wear Self-Contained Breathing Apparatus and full protective equipment. If possible, prevent runoff water from entering storm drains, bodies of water or other environmentally sensitive areas.

6. ACCIDENTAL RELEASE MEASURES	
<b>PERSONAL PRECAUTIONS:</b>	In case of a release, clear the affected area and protect people. Appropriately trained personnel, in proper personal protective equipment, using pre-planned procedures, should respond to uncontrolled releases.
<b>ENVIRONMENTAL PRECAUTIONS:</b>	Prevent contamination of environmentally sensitive areas.
<b>SMALL SPILLS:</b>	In terms of small incidental releases, the minimum personal protective clothing should be as follows: gloves, goggles and appropriate body protection.
<b>LARGE SPILLS:</b>	For large releases, the minimum personal protective equipment should be Level C: triple gloves, chemically resistant suit and air purifying respirator with a high-efficiency particulate filter. In the event of a spill where excess amounts of mist are generated, or one in which the level of oxygen is below 19.5% or is unknown, the minimum equipment should be Level B: triple gloves, chemically resistant suit and boots, hard-hat, Self-Contained Breathing Apparatus. If necessary dike the spill to prevent release from contaminating environmentally sensitive areas. Absorb spilled liquid with poly pads or other suitable absorbent materials. Rinse area thoroughly with water. Decontaminate area thoroughly. Place all spill residues in an appropriate container and seal. Reuse this product or dispose of it in accordance with regulations.

<b>7. HANDLING AND STORAGE</b>	
<b>WORK AND HYGIENE PRACTICES:</b>	As with all chemicals, avoid getting the product on you and in you. Wash thoroughly after handling this material. Do not eat, drink, smoke or apply cosmetics while handling this product. Avoid breathing vapours or mists generated by this Product. Use in well ventilated area.
<b>STORAGE AND HANDLING PRACTICES – Non-Bulk Containers:</b>	All employees that handle this material should be trained to handle it safely. Open containers slowly on a stable surface. Release any pressure build-up from container before totally opening lid. All containers containing this material must be clearly labelled. Empty containers should be handled with care. Store containers in a cool, dry location, away from direct sunlight and sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10, Stability and Reactivity). Material should be stored in secondary containers or diked area. Keep container tightly closed when not in use. Inspect all incoming containers before storage to ensure that containers are properly labelled and are not damaged.
<b>STORAGE AND HANDLING PRACTICES – Bulk Containers:</b>	Bulk Containers holding this material should be loaded and unloaded in strict accordance with container manufacturer's recommendations and all on-site safety procedures. Appropriate personal protective equipment must be used (see Section 8, Engineering Controls and Personal Protection). All transfer and dilution equipment must be inspected prior to each use. Transfer and dilution operations must be attended at all times. Hoses must be verified to be clean and free from incompatible chemicals prior to connection to tank.
<b>PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:</b>	Follow practices indicated in Section 6 (Accidental Release Measures). Make sure that application equipment is locked and tagged-out safely. Collect all rinsate and dispose of in accordance with Local Procedures and Standards.

<b>8. EXPOSURE CONTROLS / PERSONAL PROTECTION</b>	
<b>Occupational exposure limits:</b>	-
<b>Ventilation and engineering control measures:</b>	Use with adequate ventilation to prevent inhalation of spray or mist. All operations should be directed at minimising the generation of aerosols, sprays or mists. Eyewash stations and safety showers should be near areas where this product is used or sprayed.
<b>Personal protection - respiratory:</b>	None required under normal circumstances of use. If operation generates aerosols, sprays or mists, which cause exposure in excess of the guidelines listed in Section 2 (Composition and Information on Ingredients) respiratory protection may be needed.
<b>Personal protection – hand:</b>	Wear Neoprene gloves for routine industrial use. Use triple gloves for spill response, as stated in Section 6 (Accidental Release Measures) of this MSDS.
<b>Personal protection - eye:</b>	Splash goggles or safety glasses. Wear face shield for operations involving more than 20 litres of this solution in which splashes or sprays can be generated.
<b>Personal protection - skin:</b>	Use body protection appropriate for the task at hand (i.e. coveralls or rubber aprons).

<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>	
<b>PHYSICAL FORM</b>	
<b>Appearance:</b>	Clear Liquid
<b>pH:</b>	4.0 – 4.2
<b>Odour:</b>	Slight
<b>Boiling point:</b>	103 °C

<b>Melting point:</b>	Less than 0 °C
<b>Flash point:</b>	103 °C
<b>Flammability:</b>	105 °C
<b>Autoflammability:</b>	Not applicable.
<b>Explosive properties:</b>	Not applicable.
<b>Oxidizing properties:</b>	Not applicable.
<b>Vapour pressure:</b>	Not determined.
<b>Density:</b>	1.34 g/m
<b>Specific gravity:</b>	
<b>Solubility – water:</b>	Completely soluble in water.
<b>Solubility – solvent:</b>	Not determined.
<b>Solubility – coefficient:</b>	Not determined.
<b>Neurotoxicity:</b>	Not determined.

## 10. STABILITY AND REACTIVITY

<b>CONDITIONS TO AVOID:</b>	Exposure to extreme temperatures and incompatible materials.
<b>MATERIALS TO AVOID:</b>	Strong bases, strong oxidizers, strong reducers and water reactive materials.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	When exposed to extremely high temperatures, the components of this product will decompose to produce irritating vapours and toxic gases (e.g., phosphorous oxides, phosphine, carbon monoxide, ammonia and carbon dioxide).

## 11. TOXICOLOGICAL INFORMATION

<b>ACUTE TOXICITY:</b>	Symptoms of short-term exposures would include pain, reddening and irritation of exposed tissue. Severe inhalation or ingestion overexposure may be harmful.
<b>SKIN AND EYE CONTACT :</b>	Contact with skin may cause irritation and reddening of exposed tissue. Contact with eyes will lead to tearing, pain, reddening and irritation.
<b>CARCINOGENICITY:</b>	This products components are not found on the following lists: U.S FEDERAL OSHA Z LIST, NTP, IARC and CAL/OSHA and therefore are neither considered to be nor suspected to be carcinogenic by these Agencies.
<b>CHRONIC TOXICITY:</b>	Prolonged or repeated over-exposure to this product via skin may lead to allergy like skin reactions.
<b>MUTAGENICITY:</b>	None known.
<b>REPRODUCTIVE HAZARDS:</b>	This product is not reported to cause reproductive effects in humans.

## 12. ECOLOGICAL INFORMATION

<b>Aquatic toxicity - fish:</b>	Practically non-toxic.
<b>Aquatic toxicity - daphnia:</b>	Slightly toxic.
<b>Aquatic toxicity - algae:</b>	Not determined.
<b>Biodegradability:</b>	The environmental fate data requirements were not triggered because no human health or ecological effects issues were manifested in the acute toxicology (Tier 1) studies (U.S. EPA Assessment).
<b>Bio-accumulation:</b>	None suspected.
<b>Mobility:</b>	Not determined.
<b>German wgk:</b>	-

<b>13. DISPOSAL CONDITIONS</b>	
<b>Disposal methods:</b>	Rinse empty container three times with a volume of water equal to one tenth of the volume of the container and add rinsing water to the spray tank.
<b>Disposal of packaging:</b>	Destroy the container by perforation and flattening, before disposal.

<b>14. TRANSPORT INFORMATION</b>	
UN No.	Not classified.
Substance identity no.	
ADR/RID class:	
ADR/RID hazard identity no:	
IMDG – shipping name:	
IMDG – class:	
IMDG – packaging group:	
IMDG – marine pollutant:	
IMDG – EMS no:	
IMDG – MFAG table no:	
IATA – shipping name:	Phosphorous acid equivalent.
IATA – class:	
IATA – subsidiary risk(s):	
ADNR – class:	
UK – description:	
UK – emergency action class:	
UK – classification	
Tremcard no:	

<b>15. REGULATORY INFORMATION</b>	
EEC hazard classification:	Corrosive.
Risk phases:	R22, 34
Safety phases	S (1/2), 26, 36/37/39, 45
National legislation:	National Road Traffic Act, 1996 (Act 93 of 1996), Fire Brigade Service Act, 1987 (Act 99 of 1987), Occupational Health and Security Act, 1993 (Act 85 of 1993).

<b>16. OTHER INFORMATION</b>	
All information given in this data sheet is to the best of our knowledge. Because of the nature of the product, the user assumes all risk with respect to it. The data in this safety data sheet refer to the above product, but may not be valid for combination with other products or any other process. This data shall describe our product referring to questions of safety, but not declaration of quality or properties.	