SAFETY DATA SHEET

Section 1: Identification of the Substance/Mixture and of Supplier

Product name: **PH INCREASE**

Recommended use: Used to increase the PH in water
Supplier: Space Industries Limited
Street Address: 160 Plunket Ave,
Wiri, Auckland
New Zealand
Telephone Number: + 64 9 262 3902
Facsimile: + 64 9 262 3948
E-mail: orders@spaceindustries.co.nz
Website: www.spaceindustries.co.nz
Emergency Telephone 0800 764 766 (all hours)
Date of preparation: March 2021

Section 2: Hazards Identification

Hazchem: WARNING – non hazardous

ERMA Approval Code: HSR006547

Hazard Classification: 6.1E, 6.3A, 6.4A

Section 3: Composition/information on ingredients

Product Description: Used to increase the PH in water.
White powder

Components SODIUM CARBONATE – in a non hazardous diluent.
CAS Number 497-19-8
Proportion >99%

Section 4: First Aid Measures

Show this Safety Data Sheet to a Doctor
Short term exposure by all routes is considered to be harmful.

Inhalation: If fumes or combustion products are inhaled remove from contaminated area.
• Lay patient down. Keep warm and rested.
• Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
• Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
Transport to hospital, or doctor, without delay..

Skin Contact:
• Immediately remove all contaminated clothing, including footwear
• Flush skin and hair with running water (and soap if available).
• Seek medical attention in event of irritation

Eye Contact:
• Wash out immediately with fresh running water.
• Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

	• If pain persists or recurs seek medical attention. • Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Ingestion:	• Immediately give a glass of water. • First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.
Notes for the Doctor:	**For acute or short-term repeated exposures to highly alkaline materials:** • Respiratory stress is uncommon but present occasionally because of soft tissue edema. • Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary. • Oxygen is given as indicated. • The presence of shock suggests perforation and mandates an intravenous line and fluid administration. • Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue. Alkalis continue to cause damage after exposure. **INGESTION:** • Milk and water are the preferred diluents. No more than 2 glasses of water should be given to an adult. • Neutralising agents should never be given since exothermic heat reaction may compound injury. * Catharsis and emesis are absolutely contra-indicated. * Activated charcoal does not absorb alkali. * Gastric lavage should not be used. **Supportive care involves the following:** • Withhold oral feedings initially. • If endoscopy confirms transmucosal injury start steroids only within the first 48 hours. • Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention. • Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia). **SKIN AND EYE:** • Injury should be irrigated for 20-30 minutes. • Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology].
For advice, contact the Poisons Information Centre 0800 764 766 or a doctor	

Section 5: Fire Fighting Measures

Specific Hazards:	• Non combustible. • Not considered a significant fire risk, however containers may burn. Decomposes on heating and produces acrid and toxic fumes of: carbon monoxide (CO), carbon dioxide (CO2), other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.
Suitable Extinguishing Media:	There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for surrounding area.
Fire-fighting advice:	• Alert Fire Brigade and tell them location and nature of hazard. • Wear breathing apparatus plus protective gloves for fire only. • Prevent, by any means available, spillage from entering drains or water courses. • Use fire fighting procedures suitable for surrounding area. • DO NOT approach containers suspected to be hot.

	• Cool fire exposed containers with water spray from a protected location. • If safe to do so, remove containers from path of fire. • Equipment should be thoroughly decontaminated after use.
Fire Incompatibility:	.Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result. **Personal Protective Equipment** Gloves, boots (chemical resistant). Breathing apparatus..

Section 6: Accidental Release Measures

Minor Spills:	• Remove all ignition sources. • Clean up all spills immediately. • Avoid contact with skin and eyes. • Control personal contact by using protective equipment. • Use dry clean up procedures and avoid generating dust. • Place in a suitable labelled container for waste disposal. 24 HOUR EMERGENCY CONTACT TELEPHONE 0800 CHEMCALL 0800 243 622
Major Spills:	Moderate hazard. • CAUTION: Advise personnel in area. • Alert Emergency Services and tell them location and nature of hazard. • Control personal contact by wearing protective clothing. • Prevent, by any means available, spillage from entering drains or water courses. • Recover product wherever possible. • IF DRY: Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. IF WET: Vacuum/shovel up and place in labelled containers for disposal. • ALWAYS: Wash area down with large amounts of water and prevent runoff into drains. If contamination of drains or waterways occurs, advise Emergency Services. **EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)** - The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing life-threatening health effects is: Sodium carbonate: 500 mg/m³ - Irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is: Sodium carbonate: 50 mg/m³ - Other than mild, transient adverse effects without perceiving a clearly defined odour is: Sodium carbonate: 30 mg/m³ -The threshold concentration below which most people experience no appreciable risk of health effects: Sodium carbonate: 10 mg/m³

Section 7: Handling and Storage

Handling:	• Avoid all personal contact, including inhalation. • Wear protective clothing when risk of exposure occurs. • Use in a well-ventilated area. • DO NOT enter confined spaces until atmosphere has been checked. • DO NOT allow material to contact humans, exposed food or food utensils. • Avoid contact with incompatible materials. • When handling, DO NOT eat, drink or smoke. • Keep containers securely sealed when not in use. • Always wash hands with soap and water after handling.

	• Work clothes should be laundered separately. Launder contaminated clothing before re-use. • Use good occupational work practice. • Observe manufacturer's storing and handling recommendations. • Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.
Storage:	Store in a cool, dry, well ventilated place and out of direct sunlight. Store in a tank lined with anticorrosive material eg rubber, plastics, etc. Use dosing pump with anti acid property, PAC will corrode stainless steel. Check regularly for leaks. **SUITABLE CONTAINER** DO NOT use aluminium or galvanised containers. • Polyethylene or polypropylene container. • Check all containers are clearly labelled and free from leaks. **STORAGE INCOMPATIBILITY** Metals and their oxides or salts may react violently with chlorine trifluoride. In presence of moisture, the material is corrosive to aluminium, zinc and tin producing highly flammable hydrogen gas. Avoid reaction with oxidising agents. Can react violently with aluminium, phosphorus pentoxide, sulfuric acid, lithium and 2,4,6-trinitrotoluene **STORAGE REQUIREMENTS** Observe manufacturer's storing and handling recommendations. Store locked up. Ensure containers are tightly closed and in a well ventilated area.

Section 8: Exposure Controls/Personal Protection

Occupational Exposure Limits:	No value assigned for this specific material by the New Zealand Occupational Safety and Health Service (OSH).
Engineering Control Measures:	Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.
Personal Protective Equipment:	**EYE** • Safety glasses with side shields. • Chemical goggles. **HANDS/FEET** Wear chemical protective gloves, eg. PVC. Wear safety footwear or safety gumboots, eg. Rubber. **OTHER** • Overalls. • P.V.C. apron. • Barrier cream. • Skin cleansing cream. • Eye wash unit.

Section 9: Physical and Chemical Properties

Physical state:	Powder
Colour:	White
Odour:	Odourless
Molecular Weight:	106
Melting Range (°C):	0.851
Solubility in water (g/L):	Miscible

pH (1% solution):	11.3
Volatile Component (%vol):	Not applicable
Relative Vapor Density(air=1):	Not Applicable
Lower Explosive Limit (%):	Not Applicavble
Autoignition Temp (°C):	Not Applicable
State:	Divided Solid
Boiling Range (°C):	400 (Decomposes)
Specific Gravity (water=1):	2.53 @ 20 deg.C
pH (as supplied):	Not Applicable
Evaporation Rate:	Not Applicable
Flash Point (°C):	Not Applicable
Upper Explosive Limit (%):	Not Applicable
Decomposition Temp (°C):	>400
Viscosity:	Not available

Section 10: Stability and Reactivity

Conditions contributing to instability:	• Presence of incompatible materials. • Product is considered stable. Hazardous polymerisation will not occur.

Section 11: Toxicological Information

POTENTIAL ACUTE HEALTH EFFECTS

Ingestion:	The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum..
Eye contact:	There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain. There may be damage to the cornea. Unless treatment is prompt and adequate there may be permanent loss of vision. Conjunctivitis can occur following repeated exposure. Alkaline salts may be intensely irritating to the eyes and precautions should be taken to ensure direct eye contact is avoided.
Skin contact:	The material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering. Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions. Good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Entry into the bloodstream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. Solution of material in moisture on the skin, or perspiration, may markedly increase skin corrosion and accelerate tissue destruction..
Inhalation:	Inhalation of dusts, generated by the material, during the course of normal handling, may be harmful. Animal modeling has shown: SPECIES: Guinea Pig ENDPOINT: LC50 VALUE: 0.8 mg/l (2 hr)

Chronic Health Effects:	REFERENCE SOURCE: Solvay S.A. Bruxelles. Environmental Research (1983), 31, p. 138 [IUCLID 2000] The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. • Long term exposure to high dust concentrations may cause changes in lung function i.e.pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis

Section 12: Ecological Information

Environmental fate, persistence and degradation:	Avoid contaminating waterways. • Fish, Lepomis macrochirus : 96hr - LC50 : 300mg/l • Daphnia magna : 48hr - EC50 : 265mg/l • Algae, Nitszcheria linearis : 5 day - EC50 : 242mg/l

Section 13: Disposal Considerations

• Recycle wherever possible. Special hazard may exist - specialist advice may be required.
• Consult approved Waste Management Company for disposal options.
• Treat and neutralise residue at an approved site.
• Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
• Puncture containers to prevent re-use and bury at an authorised landfill.

Section 14: Transport Information

Road and Rail Transport:	HAZCHEM: None NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN, IATA, IMDG

Section 15: Regulatory Information

Classification:	6.1E, 6.3A, 6.4A

Section 16: Other Information

.Issue Date: March 2021

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