BETA PRAMESTI ASIA
WATER AND WASTEWATER TREATMENT

Safety Data Sheet
BETAGARD 5090

Infosafe No. BCE5090 **Issue Date** January 2021

Section 1. Product And Company Identification

Product name:	**BETAGARD 5090**
Manufacture:	PT. BETA PRAMESTI ASIA
Address:	Jl. Matraman Raya No. 169 Jakarta Timur
Emergency Telephone Number:	(021) 8580838
Fax Number:	(021) 8381270
Generic Description:	Prevention and control of organic growths in recirculating water system
Physical Form:	Solid
Color:	White granular or tablet

Section 2. Hazards Identification

Classification:
Corrosive
Fatal If Inhaled
Harmful If Swallowed
Target Organ Toxicity (Single)
Reproductive Toxin
Oxidizer
Environmental Hazard

HAZARD STATEMENTS:

Health Hazards:

Skin Corrosion/Irritant	Causes severe skin burns and eye damage - Category 1C Eye
Damage/Irritation:	Causes serious eye damage - Category 1
Inhalation Toxicity	Fatal if inhaled - Category 2
Oral Toxicity	Harmful if swallowed - Category 4
Target Organ Toxicity	May cause respiratory tract irritation - Category 3
Reproductive Toxin	May damage fertility or the unborn child - Category 1B.

Physical Hazards:
Oxidizing Solid - May intensify fire; oxidizer - Category 2 - OXIDIZING AGENT. Contact with water slowly liberates irritating and hazardous chlorine containing gases. Contamination with moisture, organic material, or other incompatible chemicals may start a reaction with generation of heat, liberation of hazardous gases, and possible fire and explosion. Contact with acids liberates toxic gas. Decomposes at temperatures above 464°F with liberation of harmful gases. When ignited will burn with the evolution of chlorine and equally toxic gases. Do not get water inside container. Wet material may generate nitrogen trichloride, an explosion hazard.

Environmental Hazards:
Very toxic to aquatic life - Acute 1
Very toxic to aquatic life with long lasting effects - Chronic 1.

PRECAUTIONARY STATEMENTS:
Do not breathe dust, fume, gas, mist, vapors, or spray. In case of inadequate ventilation, wear respiratory protection. Wear protective gloves, protective clothing, eye, and face protection. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area. Keep container tightly closed and store locked up. Avoid release to the environment. May intensify fire, oxidizer. Keep away from heat.

ADDITIONAL HAZARD INFORMATION:
This material is corrosive. Product has strong buffering capability. Use dilution. May cause burns to moist skin if not promptly removed. There is no specific antidote.

Eye Contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin Contact:	Remove/Take off Immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Inhalation:	Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Specific treatment is urgent (see Section 4 of SDS or first aid information on this label).
Ingestion:	Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. Specific treatment (see First Aid information on product label and/or Section 4 of the SDS).

Section 3. Composition/ Information On Ingredients

	CAS NO:	**PROPORTION**
Trichloroisocyanuric acid	87-90-1	min. 90% chlorine

Section 4. First Aid Measures

Swallowed	Rinse mouth thoroughly with water immediately. Give water or milk to drink and DO NOT induce vomiting. Use fingers in the throat, ipecac syrup (APF) or similar emetic. Seek immediate medical assistance.
Eye	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical attention
Skin	Wash affected areas with copious quantities of water immediately. In dry form Not appreciable irritating to dry skin. However when moist, the concentrate material is irritating to skin
Inhaled	Remove victim from exposure – avoid becoming a casualty. Seek medical advice.

	If breathing labored and patient cyanotic (blue), ensure airways are clear and Have qualified person give oxygen through a face mask. If breathing has stopped apply artificial respiration at once. In the event of cardiac arrest, apply external cardiac massage. For all but the most minor arrange for patient to be seen by a doctor as soon as possible either on site or at the nearest hospital.
Facilities	Where there is a possibility of eye contamination, emergency eye wash facilities should be provided within close range of the work area. Wherever there is any possibility of skin exposure, deluge showers and washing facilities should be provided.

Section 5. Fire Fighting Measures

Suitable / Unsuitable Extinguishing Media:
Flood with water. Do not use ABC fire extinguishers. Do not use dry chemicals, carbon dioxide, or halogenated extinguishing agents.

Specific Hazards from Chemical:
Negligible fire hazard. If heated by outside source to temperatures above 240°C (464°F), this product will undergo decomposition with the evolution of noxious gases but no visible flame. Wet material may generate nitrogen trichloride, an explosion hazard. This product is an NFPA Class 1 Oxidizer.
Fire Fighting: Consider evacuation of personnel located downwind. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Containers which appear undamaged, except for being damp on the outside, should be opened and inspected immediately. DO NOT attempt to reseal contaminated drums. Damp material should be neutralized to a non-oxidizing state.

Special Protective Equipment:
Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode.

Other Information:
Hazardous Combustion Products: Chlorine, Nitrogen, Nitrogen trichloride, Cyanogen chloride, Oxides of carbon, Phosgene.

Section 6. Accidental Release Measures

Personal Precautions:
Keep unnecessary and unprotected persons away. Isolate hazard area and deny entry. Do not get in eyes, on skin or on clothing. Do not breathe dust, fume, gas, mist, vapors, or spray. Wear appropriate personal protective equipment recommended in Section 8, Exposure Controls / Personal Protection, of the SDS.

Methods and Materials for cleanup:
DO NOT add water to spilled material. DO NOT use floor sweeping compounds to clean up spills. Sweep and scoop spilled material into clean, dedicated equipment. Every attempt should be made to avoid mixing spilled material with other chemicals or debris when cleaning up. DO

NOT attempt to reseal contaminated drums. DO NOT transport wet or damp material. Damp material should be neutralized to a non-oxidizing state.

Environmental Precautions:
This material is very toxic to aquatic life. This material is very toxic to aquatic life with long lasting effects. Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

Section 7. Handling and Storage

Handling:
Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or dust when opening container. Avoid creation of dust. Wash thoroughly after handling. Wear personal protective equipment as described in Exposure Controls/Personal Protection (Section 8) of the SDS. NEVER add water to this product. Always add product to large quantities of water. Use clean, dry utensils. Do not add the product to any dispensing device containing residuals of other products.

Storage:
Store in original container and in a dry area where temperatures do not exceed 52°C (125°F) for 24 hours. Store and handle in accordance with all current regulations and standards. Do not allow water to get in container. If liner is present, tie after each use. Keep container tightly closed and properly labeled. Store containers on pallets. Keep away from food, drink and animal feed. Keep separated from incompatible substances (see Section 10 of the Safety Data Sheet).
(NFPA Oxidizer Class 1)

Section 8. Exposure Controls/ Personal Protection

Appropriate Engineering Controls:
Use only in well-ventilated areas. Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

Individual Protection Measures:
Eye Protection: Wear chemical safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and Body Protection:
Wear protective clothing to minimize skin contact. When potential for contact with dry material exists, wear disposable coveralls suitable for dust exposure, such as Tyvek®.
Contaminated clothing should be removed and laundered before reuse.
Hand Protection: Wear appropriate chemical resistant gloves. Consult a glove manufacturer for assistance in selecting an appropriate chemical resistant glove.
Protective Material Types: Butyl rubber, Natural rubber, Neoprene, Nitrile, Polyvinyl chloride (PVC), Tyvek®. Respiratory Protection: A NIOSH approved respirator with N95 (dust, fume, mist) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. The added protection of a full face piece respirator is required when visible dusty conditions are encountered and eye irritation may occur. Acid gas cartridges with N95 filters are required when fumes or vapor may be generated. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Section 9. Physical and Chemical Properties

Appearance	White granular or tablet.
Formula	$C_3Cl_3N_3O_3$
Flamm. Limit LEL	Not Allocated
Boiling Point	Not Allocated
Melting Point	249 - 251°C
Vapour Pressure	Not Allocated
Bulk Density	Not Allocated
Flash Point	Not Allocated
Decomposition Temp.	225 °C
pH (1 % solution)	2.7 – 3.3
Form	Solid
Molecular weight	232.41
Odour	Chlorine odour
Solubility in water	Slightly soluble (1.2 g/100 ml water at 25°C)

Section 10. Stability and Reactivity

Stability/Reactivity
Stable under normal temperatures and pressures. NPFA Class 1 Oxidizer.

Hazardous Polymerization:
Will Not Occur

Conditions to Avoid:
None known.

Incompatible Materials:
Acids, ammonia, bases, floor sweeping compounds, calcium hypochlorite, reducing agents, organic solvents and compounds.

Hazardous Decomposition Materials:
Chlorine, Nitrogen, Nitrogen trichloride, Cyanogen chloride, Oxides of carbon, Phosgene.

Section 11. Toxicological Information

Acute Toxicity:
PRODUCT TOXICITY:
Oral LD50 (rat): 809 mg/kg
Dermal LD50 (rabbit): >2000 mg/kg
Inhalation LC50 (rat - 4hr): >0.09 mg/l - < 0.29 mg/l IRRITATION DATA:
Dermal Irritation: Severe Irritation, Corrosive Eye Irritation: Severe Irritation, Corrosive

COMPONENT TOXICITY DATA (may differ from product toxicity given above):
Trichloro-s-triazinetrione:
Oral LD50 (rat): 406 mg/kg Dermal LD50 (rabbit): 2000 mg/kg
Inhalation LC50 (rat - 1hr): 50 mg/l (4h rat)

Boric Acid:
Oral LD50 (rat): 2660 mg/kg Dermal LD50 (rabbit): 2000 mg/kg

Inhalation LC50 (rat - 1hr): 0.16 mg/l (4 hr rat)

Chronic Toxicity:
Monosodium cyanurate was administered via drinking water to rats for 104 weeks at concentrations of 0, 400, 1200, 2400, and 5375 ppm (solubility limit). No compound-related effects on body weights, clinical signs of toxicity or food or water consumption were noted during the study. An increased incidence of gross lesions in the urinary tract, calculi in the kidney and lesions in the heart were observed in males receiving the highest dose level of 5375 ppm (solubility limit). The health effects seen in this study were due to precipitation of the test substance in the urinary tract when the test substance was fed at the solubility limit. Adverse health effects were not seen at lower doses where precipitation did not occur.

Reproductive Toxicity:
Classified as a reproductive toxin per GHS criteria. Category 1B - May damage fertility or the unborn child.

Carcinogenicity:
This product is not classified as a carcinogen by NTP, IARC or OSHA. Component:
Boric Acid - listed under Group 2 IARC.

Mutagenicity:
Not classified as a mutagen per GHS criteria. Not mutagenic in 5 Salmonella strains and 1 E. coli strain with or without mammalian microsomal activation.

Section 12. Ecological Information

Aquatic Toxicity:
Freshwater Fish Toxicity:
LC50 Bluegill Sunfish: 0.23 - 0.40 mg/L (96 hour)
LC50 Rainbow Trout: 0.24 - 0.37 mg/L (96 hour) Invertebrate Toxicity:
LC50 Water Flea: 0.17 - 0.80 mg/L (48 hour) Algae Toxicity:
LC50 Green algae: <0.5 mg/L (3 hour)

Avian Toxicity:
LD50 Mallard Duck (oral): 1021 - 1631 mg/kg
LD50 N. Bobwhite Quail (oral): 1638 mg/kg LD50 Mallard duck (diet): >10,000 ppm
LD50 N. Bobwhite Quail (diet): >7422 ppm

Environmental Hazards:
BIODEGRADATION: This material is subject to hydrolysis. Cyanuric acid produced by hydrolysis is biodegradable.
PERSISTENCE: This material is believed not to persist in the environment. Free available chlorine is rapidly consumed by reaction with organic and inorganic materials to produce chloride ion. The stable degradation products are chloride ion and cyanuric acid.
BIOCONCENTRATION: This material hydrolyses in water liberating free available chlorine and cyanuric acid. These products are not bioaccumulative.
This product is toxic to fish and aquatic organisms.
ADDITIONAL ECOLOGICAL INFORMATION: This product is very toxic to fish and aquatic organisms. This product is very toxic to aquatic life with long lasting effects. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without

previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

Section 13. Disposal Considerations

Disposal:	Waste from material: Use or reuse if possible. This material is a registered pesticide. Dispose in accordance with all applicable regulations. Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. DO NOT transport wet or damp material. Damp material should be neutralized to a non-oxidizing state. Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.
Container disposal:	See product label for container disposal information. May be subject to disposal regulations.

Section 14. Transport Information

Proper shipping name	TRICHLOROISOCYANURIC ACID
EPG Number	None Allocated
IERG Number	None Allocated
Packaging and labeling	50 kg/drum tablets or 20 kgs granular
As required by the ADG	code and the standard for the uniform scheduling of drugs and poisons.

Section 15. Regulatory Information

Safety, health and environmental
Dir. 67/548/EEC (Classification, packaging and labelling of dangerous substances). Dir. 99/45/EEC (Classification, packaging and labelling of dangerous preparations). Dir. 98/24/EC (Risks related to chemical agents at work). Dir. 2000/39/EC (Occupational exposure limit values); Dir. 2006/8/CE. Regulation (CE) n. 1907/2006 (REACH), Regulation (CE) n.1272/2008 (CLP), Regulation (CE) n.790/2009. Where applicable, refer to the following regulatory Provisions.

Section 16. Other Information

References: Not available.
Other Special Considerations: Not available

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended. This SDS cancels and replaces any preceding release.