

1) Chemical product and company identification



Trade Name : Atom Plus
Product Code : ICAP07
Company : A Burton & Sons cc (2009/231032/23) T/A iClean
Address : 3 Quarry Road, Hilton, South africa
Telephone Number : 033 343 1640
Emergency Number : 082 44 616 59
eMail : info@iclean.co.za
Website : www.atomplus.co.za

Recommended Uses

This product must always only be diluted with water. It is not intended to be used undiluted. Use for cleaning and sanitising of surfaces such as counters, hands, clothing, produce, toys. Consult manufacturer's website for additional information. Once diluted as recommended the resulting solution evolves and is non-hazardous according to the GHS and is not classified. **This document is for safe handling of the undiluted dry product, once diluted as recommended, the resultant solution evolves and is not considered hazardous.**

Restrictions on Use:

Never dilute with any chemical other than water in the recommended ratio. This product is ineffective in its dry form.

The information contained in this document is in reference to the main ingredient, unless otherwise stated.

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2) Hazards identification

GHS Classification

Physical & Chemical Hazards

	Hazard Category	Hazard Statement
Oxidising Solids :	Ox.Sol.2	H272
Human Health Hazards		
Acute Toxicity – Oral :	Acute Tox. 4	H302
Serious Eye Damage/ Eye Irritation :	Eye Irrit. 2	H319
Specific target organ toxicity – single Route of exposure :	STOT SE 3 Inhalation	H335

Environmental Hazards

Hazardous to aquatic environment-acute: Aquatic Acute 1 H400

Signal Word : Warning

Other hazards not sufficient for classification

GHS Labelling

H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H410 Very toxic to aquatic life with long lasting effects.

GHS Pictograms



Precautionary Statements

- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 Wash ... thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

3) Composition/information on ingredients

This chemical product is a mixture

Main Ingredient	CAS Number	EC / List No.	Concentration
Troclosene sodium	2893-78-9	220-767-7	<=100%

Other ingredients not classified as hazardous according to the GHS

When diluted with water at recommended ratio ingredients evolve

Hypochlorous Acid	7790-92-3	232-232-5	0.018%
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Hypochlorous Acid is not classified as hazardous according to the Globally Harmonized System (GHS)

4) First-aid measures

INHALATION: If adverse effects occur remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. If respiration or pulse has stopped, have a trained person administer Basic Life Support.

SKIN CONTACT: Immediately flush contaminated areas with water. Remove contaminated clothing. Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing and shoes before reuse. If irritation occurs, get medical help.

EYE CONTACT: Immediately flush eye with a directed stream of water for at least 15 minutes

INGESTION: If victim is conscious and alert, allow to rinse mouth and then drink two cups of water. Never give anything by mouth to an unconscious person. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs spontaneously, keep airway clear. Drink more water when vomiting stops. Seek medical attention immediately.

GENERAL INFORMATION: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident. Delayed effects can include shortness of breath, violent headaches, pulmonary oedema and pneumonia. The chlorinated isocyanurates have low acute manifestation. It irritates the eyes and skin but is not considered to be skin sensitizers. Studies show that it does not cause cancer or foetal toxicity on acute exposure. However, on chronic inhalation and ingestion exposure, it produces toxicity involving organ damage, breathing difficulty, headaches and possibly reproductive and foetal toxicity.

Emergency Responders should wear gloves and respiratory devices when large spills are encountered. Excellent warning properties force rapid escape of personnel from chlorine vapour thus most inhalations are mild to moderate. If escape is not possible, exposure to high concentrations for a very short time can result in dyspnoea, haemoptysis and cyanosis with later complications being tracheobronchial-pneumonitis and pulmonary oedema. Depending on the degree of exposure, periodic medical examination is indicated. The symptoms of lung oedema often do not manifest until a few hours have passed and they are aggravated by physical effort.

5) Fire-fighting measures

SUITABLE EXTEINGUISHING MEDIA: Large amounts of water may be needed and the flow of water should not be stopped until the fire/reaction has stopped.

EXTINGUISHING MEDIA NOT TO BE USED: Avoid using dry chemicals, carbon dioxide or halogenated extinguishing agents.

UNUSUAL FIRE AND EXPLOSION HAZARD: When heated to decomposition, may release poisonous and corrosive fumes of nitrogen trichloride, nitrogen, cyanogen chloride, phosgene, chlorine and CO.

FIRE FIGHTING PROCEDURE: Cool containers with water spray. Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) in positive pressure mode. On small fires, use water spray or fog. On large fires, use heavy deluge or fog streams. Flooding amounts of water may be required before extinguishment can be accomplished.

Do not inhale explosion or combustion gases. In case of combustion use an approved / certified respirator or equivalent. Wear protective clothing. Isolate hazard area and deny entry. Consider evacuation or personnel located downwind. Collect contaminated firefighting water separately. Do not discharge contaminated water into drains. Dispose contaminated drums and damaged or damp material in proper manner. Contact company for further instructions. Do not use ABC extinguishers containing nitrogen, due to risk of violent chemical reaction. Use protection for the respiratory tract.

6) Accidental release measures

Keep unnecessary people away, isolate hazard area and deny entry. DO NOT add water to spilled materials. 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 any contaminated drums. DO NOT transport wet or damp material. Damp material should be neutralized to a non-oxidizing state.

PERSONAL PRECAUTIONS: Avoid contact with skin, eyes and clothing. Chemical safety goggles Chemical resistant gloves
METHODS FOR CLEANING UP: Hazardous concentrations in air may be found in local spill area and immediately downwind. If spill material is still dry, do not put water directly on this product as a gas evolution may occur. Do not close containers containing wet or damp material. Do not transport damp or wet material.

ENVIRONMENTAL PRECAUTIONS: Prevent flow of material into water source and begin monitoring available chlorine and pH immediately.

- Soil Do not contaminate spill material with any organic materials, ammonia, ammonium salts or urea. Clean up all spill material with clean, dry dedicated equipment and place in a clean dry container.
- Water This material is heavier than and soluble in water. Stop flow of material into water as soon as possible. Begin monitoring for available chlorine and pH immediately.
- Air Vapours may be suppressed by the use of water fog.

7) Handling and storage

DRY TABLET AS SUPPLIED

HANDLING: Avoid contact with skin, eyes, and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing the substance. Use respiratory protection when exposure is possible. Vapour space in a closed container may contain a slight amount of chlorine gas and compounds from decomposition of the product.

STORAGE: Store in a dry, cool (< 25°C), well ventilated area away from incompatible materials (see "materials to avoid"). Do not allow water to get into the container. Temperatures exceeding 45°C are permissible for periods not exceeding 24 hours provided containers remain sealed. Always store in original packaging. Never transfer in dry state to aluminium or other soft metal packaging. Do not use unlined steel containers.

WHEN DILUTED AS RECOMMENDED

HANDLING: Not considered hazardous. Use only as recommend on product label.

STORAGE: Store at room temperature or in refrigerator. Avoid temperatures exceeding 40°C, product loses efficacy at high temperatures. Store in an opaque container away from sunlight. Discard after 30days.

8) Exposure controls and personal protection

VENTILATION REQUIREMENTS: This material should be handled in a well-ventilated area. Use local exhaust as necessary, especially under dusty conditions.

PERSONAL PROTECTIVE EQUIPMENT:

- Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment, AB-P filter (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)
- Hand protection: Chemical resistant gloves, PVC or nitrile recommended
- Eye protection: Chemical safety goggles
- Skin and body protection: Use protective clothing impervious to this material.
- Other: Overalls, PVC Apron.

HYGIENE MEASURES: Do not eat, smoke or drink where material is handled, processed or stored. Wash hands thoroughly after handling and before eating or smoking. Safety shower and eye bath should be provided.

EXPOSURE CONTROLS

SOURCE	MATERIAL	TWA PPM	TWA MG/M3	STEL MG/M3	PEAK PPM	PEAK MG/M ³	TWA F/CC	NOTES
US ACGIH THRESHOLD LIMIT VALUES (TLV)	Troclosene sodium	0.5		1				TLV Basis URT & Eye irr

9) Physical and chemical properties

APPEARANCE: Off white round tablet with chlorine like odour.

pH: No pH in solid form. When diluted as recommended, pH 6-6.5 @ 0.66%

DECOMPOSITION TEMPERATURE: 252°C – prior to melting.

BOILING POINT: Not applicable as product decomposes before boiling.

FLASH POINT: Not applicable as product is a solid.

AUTO FLAMMABILITY: Not considered to be flammable (according to DTA and ARC data)

VAPOUR PRESSURE: 0.006 Pa @ 20°C (Trehy & Adamove 1991)

DENSITY: 0.986 g/mL

SOLUBILITY: 236.8g/L in water

10) Stability and reactivity

STABILITY: Stable at normal temperatures and pressure

SHELF LIFE: stable for 2 years in sealed container.

CONDITIONS TO AVOID: Do not get water inside storage container, gases may be generated.

MATERIALS TO AVOID : Organic materials, reducing agents, nitrogen containing materials, oxidizers, acids, bases, oils, grease, sawdust, dry fire extinguishers containing monoammonium compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: nitrogen trichloride, chlorine, carbon monoxide.

POLYMERIZATION: Will not polymerize.

11) Toxicological information

Note: The toxicological data refer only to the active ingredient unless otherwise specified and does not apply to the product when used as directed.

Acute toxicity:

- Rat oral LD50 >2000 mg/kg (the product as a whole)
- Rabbit dermal LD50 >5000 mg/kg
- Rat inhalation LC50 0.27-1.17 mg/L/4h
- Dermal irritation (rabbit) Moderate irritant
- Eye irritation (rabbit) Severe irritant

Dermal sensitization:

Not a sensitizer

Chronic toxicity:

Chronic inhalation exposure may cause impairment of lung function and permanent lung damage. Based on animal studies, exposure to concentrations of monosodium cyanurate at the solubility limit may cause cardiovascular, kidney and urinary bladder effects.

Mutagenicity :

Not mutagenic by the Ames Test.

Carcinogenicity:

Not known to be a carcinogen. Not classified by IARC, OSHA, EPA. Not included in NTP 13th Report on Carcinogens

Reproductive toxicity: Not classified as a reproductive toxin per GHS criteria. There are no known or recorded effects on reproductive function or foetal development.

OTHER HAZARDS:

Contact with acids liberates toxic gas.

12) Ecological information

Note: The toxicological data refer only to the active ingredient unless otherwise specified and does not apply to the product when used as directed.

Eco toxicity:

Very toxic to aquatic life with long lasting effects.

Persistence and degradability:

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

Mobility:

The chlorinated isocyanurates are rapidly reduced by reaction with inorganic species in the soil and therefore the substance of interest is the stable reaction product cyanuric acid. The mobility of CYA in soil appears to decrease with decreasing organic matter concentration. Cyanuric acid is weakly absorbed and highly mobile in soils and sediments

Bio accumulative Potential:

Does not bio accumulate

Other Adverse Effects

Not available

Environmental Protection:

Do not discharge this material into waterways, drains and sewers.

Fish Toxicity:

LC50 Bluegill sunfish: 0.25-1.0 mg/L (96 hour)

LC50 Rainbow trout: 0.13-0.36 mg/L (96 hour)

LC50 Inland silversides: 1.21 mg/L (96 hour)

Invertebrate Toxicity:

LC50 Water flea: 0.196 mg/L (48 hour)

LC50 Mysid shrimp: 1.65 mg/L (96 hour)

Other Toxicity:

LD50 Mallard duck (oral): 1,916 mg/kg

LD50 N. Bobwhite Quail (oral): 1,732 mg/kg

LD50 Mallard duck (diet) : >10,000 ppm

LD50 N. Bobwhite Quail (diet) : >10,000 ppm

13) Disposal considerations

WASTE DISPOSAL:

Avoid access to streams, lakes or ponds. Observe all federal, state and local environmental regulations when disposing of this material. Do not transport damp or wet material. Neutralise materials to a non-oxidising state for safe disposal.

DISPOSAL OF PACKAGING:

Clean Container and dispose of according to local and national regulations.

14) Transport information

Note: The information in this section is for the mixture of ingredients as presented, which are not considered oxidising for transport and is not regulated by DOT for non-bulk shipments.

LAND: UN Number: 3077

UN Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s. (Dichloroisocyanuric Acid Salts)

Transport Hazard Class: 9

Packing Group: III

Labels: Corrosive

SEA: UN Number: 3077

UN Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s. (Dichloroisocyanuric Acid Salts)

Transport Hazard Class: 9

Packing Group: III

Labels: Corrosive

AIR: UN Number: 3077

UN Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s. (Dichloroisocyanuric Acid Salts)

Transport Hazard Class: 9

Packing Group: III

Labels: Corrosive

Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable for product as supplied.

Special precautions for user:

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations. For personal protection see section 8

15) Regulatory information

Note: This information is on the active ingredient. When used as directed the ingredients will evolve into Hypochlorous Acid which is not regulated in South Africa.

SIN	Waste Stream	Indust Group	SABS 0228 Class/Danger Group	Hazard Rating	Acceptable Enviro Risk ppm	Disposal Allowed g/ha/m	Preferred Technology	Allowed Technology	Unacc. Tech
2465	Dichloroisocyanuric Acid Salts	F10	5.1(II)	¾	1	1515	RCY,INC	RCR	-

Source: Minimum Requirement for the Handling, Classification and Disposal of Hazardous Waste – Department of Water Affairs and Forestry – Second Edition 1998

Reportable Quantity – 100kg

Source: Guidelines on the administration of incidents, as described in section 30 of the National Environmental Management Act, 107 of 1998.

Users of this product must make themselves aware of possible local regulations.

Labelling: As per NRCS VC 8054:2017 – Sec 5.2

16) Other information

The active ingredient of this mixture is not subject to the model regulations contained in: Recommendations on the TRANSPORT OF DANGEROUS GOODS – Model Regulations – Volume 1 – Sixteenth revised edition – Pg 243 and para 135 Pg 299.

Hypochlorous Acid (HOCl) is FDA Approved: <https://www.accessdata.fda.gov/scripts/fdcc/?set=FCN&id=1811>

Hypochlorous acid may be used in processing facilities at up to 60 ppm for use in process water or ice which comes into contact with food as a spray, wash, rinse, dip, chiller water, and scalding water for whole or cut meat and poultry, including carcasses, parts, trim, and organs; in process water, ice, or brine used for washing, rinsing, or cooling of processed and pre-formed meat and poultry products as defined in 21 CFR 170.3(n)(29) and 21 CFR 170.3(n)(34), respectively; in process water or ice for washing, rinsing or cooling fruits, vegetables, whole or cut fish and seafood; and in process water for washing or rinsing shell eggs.

NRCS Registration

SABS 1853:2020

INTERTEK Toxicology Certification

Laboratory Testing and Approvals:

SANS 51276 (EN1276) - Quantitive Suspension Test for the Evaluation of Bactericidal Activity of Chemical Disinfectants and Antiseptics – 2020

SANS 51650 (EN1650) - Quantitive Suspension Test for the Evaluation of Fungicidal Activity of Chemical Disinfectants and Antiseptics - 2020

SANS 53624 (EN13624) - Quantitive Suspension Test for the Evaluation of Fungicidal Activity of Chemical Disinfectants for Instruments used in Medical Areas – 2020

SANS 53704 (EN13704) - Quantitive Suspension Test for the Evaluation of Sporicidal Activity of Chemical Disinfectants used in Food, Industrial, Domestic and Institutional Areas – 2020

SANS 53610 (EN 13610) - Quantitative suspension test for the evaluation of virucidal activity against bacteriophages of chemical disinfectants used in food and industrial areas

Above results may be found by visiting www.atomplus.co.za