1. Identification of the substance & the company

Chemical family: Halogenated hydantoin
Molecular weight: 241.5
Type of product and use: Used to control IRB, SRB & other nuisance bacteria in groundwater water wells and bores, Algae in lakes and ponds

2. Hazards identification (*)

Important hazards: Oxidizer
Adverse human health effects: Causes burns. Aqua Shield may cause skin sensitization.
NFPA Ratings (Scale 0-4) (*): Health = 3, Fire = 0, Reactivity = 1

3. First-aid measures

Eye contact: Holding the eyelids apart flush eyes promptly with copious flowing water for at least 20 minutes. Get medical attention immediately.
Skin contact: Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before re-use. Get medical attention immediately.
Inhalation: In case of dust inhalation or breathing fumes released from heated material, Remove person to fresh air. Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately.
Ingestion: If swallowed, wash mouth thoroughly with plenty of water and give water to drink. Get medical attention immediately.

NOTE: Never give an unconscious person anything to drink.

Note to the physician: No specific antidote:
Treat symptomatically and supportively.
In case of ingestion do not induce vomiting.

4. Fire - fighting measures

Flash point: None
Flammable/Explosion limits: Not flammable
Auto-Ignition temperature: Not applicable
Extinguishing media: Dry powder, carbon dioxide or water spray
Fire fighting procedure: Cool containers with water spray. In closed stores, provide fire fighters with self-contained breathing apparatus in positive pressure mode.
Unusual fire and explosion hazards
When heated to decomposition, may release poisonous and corrosive fumes of HBr, NOx and HCl. Strong oxidizing agent. Forms explosive mixtures with combustible, organic or other easily oxidizable materials.

5. Accidental release measures

Personal precautions
Evacuate area
Use dust respirator, rubber gloves and chemical safety goggles.

After spillage / leakage
Sweep up, place in a suitable container and hold for waste disposal. Avoid raising dust.
Ventilate area and wash spill site after material pickup is complete.
Avoid access to streams, lakes or ponds.

6. Handling and storage

Handling
Keep containers tightly closed.

Storage
Keep away from all sources of ignition.
The minimum recommended storage temperature for this material is 20°C.
The maximum recommended storage temperature for this material is 30°C.
Store in a dry, well-ventilated area away from incompatible materials (see "materials to avoid").

7. Exposure controls / personal protection

Exposure limits
TLV -TWA Not established

Ventilation requirements
Use local exhaust as necessary, especially under dusty conditions.

Personal protection equipment
Respiratory protection Approved respirator - Gloves PVC gloves - Eye protection.
Chemical safety goggles - Others Body covering clothes and boots Industrial hygiene. Safety shower and eye bath should be provided. Do not eat, drink or smoke until after work.
showering and changing clothes.

8. Physical and chemical properties

Appearance
White to off-white tablet with faint halogenous odour

Melting point/range
123 - 125°C

Boiling point/range
Not determinable, decomposes above 160°C

Vapour pressure
9.35x10(-3) Pa at 25°C

Relative vapour density (air=1)
Not applicable under standard conditions

Evaporation rate (ether=1)
Not applicable under standard conditions
9. Stability and reactivity

Stability

Stable under normal conditions

Materials to avoid

Oxidizing agents
Combustible organic materials
Bases

Conditions to avoid

Heating above 160°C

Hazardous decomposition products

HBr, Br2, HCl

Hazardous polymerization

Will not occur

10. Toxicological information (*)

Acute toxicity

Rat oral LD50 (*) 929 mg/kg
Rat inhalation LC50 (*) 1.1 mg/l/4 hour (powder)
Dermal irritation (rabbit) (*) Corrosive

Dermal sensitization

(guinea pig) (*) Sensitizer

Effects of overexposure

Ocular Severe irritant
May cause temporary or even permanent eye damage
Dermal Exposure to wet skin may cause severe irritation
Inhalation Irritant to upper respiratory tract
Shortness of breath, headache and nausea
Sensitization Prolonged skin contact may cause sensitization

Chronic toxicity

Not available

Mutagenicity

Mutagenic by the Ames Test

Carcinogenicity

Not known to be a carcinogen
Not included in NTP 9th Report on Carcinogens
Not classified by IARC
11. Ecological information

Aquatic toxicity
- 96 Hour-LC50 - Fish 0.4 mg/l (Rainbow trout, Static)
- 0.46 mg/l (Bluegill sunfish, Static)
- 1.6 mg/l (Sheeps head minnow, Acute flow through)
- 1.2 mg/l (Eastern oyster, Acute flow through)
- 1.9 mg/l (Mysid shrimp, Acute flow through)
- 48 Hour-LC50, Daphnia magna 0.75 mg/l (Static)

Avian toxicity
- Bobwhite quail, acute oral LD50 1839 mg/kg
- Mallard duck, dietary LC50 >5620 ppm
- Bobwhite quail, dietary LC50 >5620 ppm

12. Disposal considerations

Waste disposal Disposal of in approved landfill sites or an approved incinerator.
Crush and bury empty containers.
Avoid access to streams, lakes or ponds.
Observe all federal, state and local environmental regulations when disposing of this material.

13. Transportation information

UN No. 1479
IMO-IMDG code Proper shipping name oxidizing solid, n.o.s
Class 5.1 - Oxidizing substances
Packing Group I
Marking MARINE POLLUTANT (IMDG CODE - page 5163, amdlt.29-98)
ICAO/IATA Class 5.1
Packing group II
Label OXIDIZER (5.1)

RID/ADR

Class and Item Nos.: 5.1, 27"(b)
Danger Label Model No.: 5.1
Hazard/Substance Nos.: 50/1479
Proper shipping name: Oxidizing solid, n.o.s
Class: 5.1 - Oxidizing substances
14. Regulatory information (*)

EC  Reported in EINECS (No. 2511715)

- R Phrase(s)
  R 8: Contact with combustible material may cause fire.
  R 31: Contact with acids liberates toxic gas.
  R 34: Causes burns.
  R 22: Harmful if swallowed.
  R 43: May cause sensitization by skin contact.

- S Phrase(s)
  S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  S 28: After contact with skin, wash immediately with plenty of water and soap.
  S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible).
  S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

Other Information

The above information is accurate to the best of the knowledge available to us. However since data safety standards and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control we make no warranty, whether express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Users should satisfy themselves that they have all current data relevant to their particular use.