

DATA SHEET

– Sodium Dichloroisocyanurate (NaDCC)

1. Hazards identification

HARMFUL if swallowed. Irritating to eyes and respiratory system. Contact with acid liberates toxic gas. On contact with moisture, NaDCC readily decomposes to Chlorine, Hypochlorous Acid & Cyanuric Acid.

2. First aid measures

Eye Contact:	Immediately flush with plenty of clean water for at least 15 minutes. If irritation persists, seek medical attention.
Skin Contact:	Promptly wash thoroughly with water for at least 15 minutes whilst removing contaminated clothing. Wash any contaminated clothing well, before re-use.
Ingestion:	Immediately rinse mouth, then drink plenty of water or milk. Do not induce vomiting. Seek medical attention.
Inhalation:	Move to fresh air. If irritation persists, seek medical attention.

3. Fire-fighting measures

Special Fire or Explosion Hazards: Product is not flammable itself, but contact with combustible material may cause fire. Product combustible if dehydrated by drying. Decomposes above 250°C with release of chlorine & other toxic fumes.

A thermal decomposition can be extinguished by flooding with copious amounts of water or by isolating the decomposing material in open air and allowing it to be consumed. Use self-contained breathing apparatus and goggles. Do not approach from leeward.

Suitable Extinguishing Media: Pressurised water or dry powder. Do not use dry fire extinguishers containing ammonium compounds.

Other Recommendations: Remove the product if it is safe to do so, before using water for fire fighting, in order to minimise hazards from release of toxic fumes. It will often be safer to let the fire burn itself out. Where it is decided to fight the fire with water, large quantities **must** be used. If insufficient water is used there may be an explosion hazard associated with hot damp material. NaDCC may generate nitrogen trichloride when it is left under damp conditions.

4. Accidental release measures

Any spillage should be cleaned up as soon as possible to prevent contamination with foreign materials with which it may react - see section 8 (*Stability and Reactivity*) below. Handle spillage carefully, do not return spilled material to original container.

If tablets are dry and uncontaminated, collect into heavy-duty plastic bag; where possible and suitable, use material as originally intended. Wash away any residue with copious amounts of water.

If tablets are contaminated they should be transferred to waste ground, spread thinly and covered with a thin layer of earth; a smell of chlorine will be noted until the material has degraded. Keep people, vehicles and animals away from the disposal area.

If tablets become damp they will effervesce, evolving carbon dioxide and may decompose to give off chlorine fumes; transfer spillage to unsealed plastic bags, avoiding any large masses of material within the bags, and remove to waste ground for immediate treatment/disposal as above; avoid breathing fumes. Wash away residue with copious amounts of water.

If spillage of tablets is large (more than 100Kg), place into bins lined with polythene bags and eliminate in accordance with locally valid disposal regulations.

5. Handling and storage

Recommended Storage Conditions:

Store away from all incompatibles and combustibles - see section 8 (*Stability and Reactivity*) below. Store in a cool, dry, well-ventilated place. Moisture sensitive. Avoid high humidity levels. Do not allow water to get into container. Keep away from fire, heat, flame & direct sunlight. Keep container tightly closed. Keep out of reach of children. Never store damp or contaminated material.

Recommended Handling Precautions:

Avoid contact with eyes, skin & clothing.

When handling large quantities of tablets, wear chemical resistant gloves and safety goggles.

Avoid breathing any dust.

Wash thoroughly after handling.

Use protective equipment recommended in section 6 (*Exposure controls/personal protection*).

Do not eat, drink or smoke when handling this material.

6. Exposure controls/personal protection

Occupational Exposure Limits

(EH40/2002): Long Term Exposure Limit to Chlorine – (8 hours TWA) 0.5ppm 1.5mgm⁻³

Short Term Exposure Limit to Chlorine – (10 minutes) 1ppm 2.9mgm⁻³

Long term exposure Limit to amorphous silica – (8 hours TWA) - 6mgm⁻³

Respiratory Protection: Where any dust in the breathing zone cannot be controlled with ventilation, wear an officially approved respirator (NIOSH/MSHA or equivalent agency) for protection against airborne dust.

Ventilation: Use local exhaust ventilation where appropriate.

Eye Protection: If airborne dust concentrations are high, wear appropriate protective goggles. Wash eyes with clean water where there is potential eye contact.

Skin Protection: When handling large bulk quantities wear protective gloves. Wash immediately if skin is contaminated. Remove and wash contaminated clothing and clean up equipment before re-use. Wash thoroughly with soap and water after handling.

7. Physical and chemical properties

Appearance: White flat bevelled tablet

Odour: Characteristic Chlorine Odour

pH: As is - not applicable

pH: In solution - 5.0 - 6.0 approx.

Solubility: Freely soluble

Oxidising Properties: Non-Oxidising

Flash point: Not flashing

Flammability: Not flammable

Autoflammability: Not autoflammable

Explosion Properties: Not explosive

8. Stability and reactivity

Conditions to Avoid:

Do not store on or near heat sources or naked flame. Avoid moisture.

NaDCC decomposes at temperatures above 240°C liberating toxic gases.

Materials to Avoid:

Contact with water liberates chlorine, and with nitrogen compounds may cause explosion. Avoid organic materials, oils, grease, sawdust, reducing agents, nitrogen-containing compounds, calcium hypochlorite, other oxidizers, acids, alkalis, cationic and certain non-ionic surfactants.

9. Toxicological information

Route of entry: inhalation, skin contact & ingestion.

Inhalation of NaDCC is irritating to the nose, mouth, throat and lungs.

Ingestion of NaDCC can cause irritation and or/burns to the gastrointestinal tract.

Skin & Eye Contact with NaDCC can cause severe irritation and/or burns, characterized by redness, swelling and scab formation. May cause impairment of vision and corneal damage.

Toxicological Data: NaDCC

Acute toxicity

Oral LD50 (rat) ca. 1825mg/kg

Eye Irritation (rabbit) Severe irritant

Rabbit dermal LD50 >20,000mg/kg

Carcinogenicity: This chemical is not considered to be carcinogenic by any reference source.

10. Ecological information

NaDCC is highly toxic to fish. Do not discharge into lakes, ponds, streams or public water unless in accordance with the permit of official regulations.

11. Disposal considerations

Disposal should be carried out in accordance with all official regulations. If material is dry, incineration is recommended.