

# MATERIAL SAFETY DATA SHEET

Product Name **Regal Dy-Chlor II**

Product id: REG80                      EPA Reg. No. 42177-80  
Revision date: 11/9/05                      Revision: NEW

## 1. Identification of the substance & the company

**Chemical name**                      Sodium dichloroisocyanurate,dihydrate

**Synonym(s)**                      Sodium dichlor; Sodium dichloroisocyanurate,dihydrate; Sodium dichloro-s-triazinetriene dihydrate

**Chemical formula**                      NaCl<sub>2</sub>(NCO)<sub>3</sub>·2H<sub>2</sub>O

**Chemical family**                      Chloroisocyanurate

**Molecular weight**                      256

**Type of product and use**                      Intended for disinfectants, sanitizers, fungicides, bactericides and algacides for pools, spas and hot tubs.

**Supplier**                      Alliance Trading, Inc.  
109 Northpark Blvd., 4<sup>th</sup> Floor  
Covington, LA 70433

**Emergency Telephone**                      1-800-255-3924

## 2. Composition / information on ingredients

Components	Weight %	ACGIH-TLV Data	OSHA (PEL) Data
SODIUM DICHLOROISO CYANURATE, DIHYDRATE 51580-86-0	99-100	Not determined	Not determined
SODIUM CHLORIDE 7647-14-5	0-1	Not determined	Not determined

## 3. Hazards identification

**Emergency overview**                      Harmful if swallowed.

**- Inhalation**                      Irritating to the nose, mouth, throat and lungs.  
It may also cause burns to the respiratory tract with the production of lung edema that can result in shortness of breath, wheezing, choking, chest pain, and impairment of lung function.  
Inhalation of high concentrations can result in permanent lung damage from the corrosive action of the lung.

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**- Ingestion** Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding and/or tissue ulceration.  
Ingestion causes severe damage to the gastrointestinal tract with the potential to cause perforation.

**- Skin contact** Dermal exposure can cause severe irritation and/or burns characterized by redness, swelling and scab formation.  
Prolonged skin exposure may cause permanent damage.

**- Eye Contact** Severe irritation and/or burns can occur following eye exposure. Contact may cause impairment of vision and corneal damage.

**NFPA Ratings (Scale 0-4)** Health = 2, Fire = 0, Reactivity = 1.  
Special Hazard Warning: OXIDIZER

**HMIS Ratings (Scale 0-4)** Health = 3, Fire = 0, Reactivity = 1.

## 4. 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.

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NOTE: Never give an unconscious person anything to drink.

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**Notes to the physician** Corrosive  
No specific antidote. Treat symptomatically and supportively. In case of ingestion DO NOT induce vomiting.

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**Medical conditions aggravated by exposure** Asthma, respiratory and cardiovascular disease.

## 5. Fire - fighting measures

**Flash point** Not applicable  
**Auto-ignition temperature** Not applicable  
**Suitable extinguishing media** Water  
**Extinguishing media not to be used** Do not use dry chemical extinguisher containing ammonia compounds.  
**Fire fighting procedure** Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) in positive pressure mode. Cool containers with water spray. 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.

**Unusual fire and explosion hazards** When heated to decomposition, may release poisonous and corrosive fumes of nitrogen trichloride, chlorine and carbon monoxide.

## 6. Accidental release measures

**Personal precautions** For small spills in a well-ventilated areas, wear a NIOSH approved half-face or full face tight fitting respirator or a loose fitting powered air purifying respirator equipped with chlorine cartridges. Chemical goggles should be worn when using a half-face respirator. In addition to respiratory protection, wear coveralls; chemical resistant gloves; chemical resistant footwear; and chemical resistant headgear for overhead exposure. For clean-up of large spills, or small dry spills in confined areas, wear full-face respirator with chlorine cartridges or a positive pressure supplied air respirator. Additionally, body protection should be impervious clothing covering entire body to prevent personal contact with material. CAUTION - Protection concerns must also address the following: If this material becomes damp/wet or contaminated in a container, the formation of nitrogen trichloride gas may occur and an explosive condition may exist.

**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.

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- **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.
  
- **in air**                      Vapors may be suppressed by the use of water fog.

## 7. Handling and storage

**Handling**                      Do not take internally.  
Avoid contact with skin, eyes, and clothing.  
Upon contact with skin or eyes, wash off with water.

**Storage**                      Store in a dry, cool, well-ventilated area.  
away from incompatible materials (see "materials to avoid"). Do not store at temperatures above 60°C/140°F.  
Product has an indefinite shelflife limitation.

## 8. Exposure controls / personal protection

**Ventilation requirements**                      Use local exhaust ventilation to minimize dust and chlorine levels where industrial use occurs.  
Otherwise, ensure good general ventilation.

**Personal protective equipment:**  
A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

- **Respiratory protection**                      When dusty conditions are encountered, wear a NIOSH/OSHA full-face respirator with chlorine cartridges for protection against chlorine gas and dust/mist pre-filter.
- **Hand protection**                      Neoprene gloves
- **Eye protection**                      Use chemical safety glasses to avoid eye contact.  
Where industrial use occurs, chemical goggles may be required.
- **Skin and body protection**                      Impervious body covering clothes, boots and neoprene apron
- Hygiene measures**                      Safety shower and eye bath should be provided. Do not eat, drink or smoke until after-work showering and changing clothes.

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## 9. Physical and chemical properties

**Appearance** White granular solid or tablet-form product  
**Odor** Mild chlorine-like  
**Melting point/range** Not applicable  
**Boiling point/range** Not applicable  
**Vapour pressure** Not applicable under standard conditions  
**Vapor density** Not applicable under standard conditions  
**Evaporation rate (ether=1)** Not applicable under standard conditions  
**Solubility:**  
- **Solubility in water** 25 g/100ml at 30°C  
**Bulk density** 0.9-0.95 g/cc  
**Specific gravity** 0.96  
**pH** 6-6.5 (1% solution)  
**Decomposition temperature** Begins to lose 1 mole water at approximately 50°C; second mole water at 95°C; Decomposes at 240-250°C

## 10. Stability and reactivity

**Stability** Stable under normal conditions. Do not package in paper or cardboard. Begins to lose one mole of water at approximately 50°C

**Materials to avoid** Organic materials, reducing agents, nitrogen containing materials, other oxidizers, acids, bases, oils, grease, sawdust, dry fire extinguishers containing monoammonium compounds.

**Conditions to avoid** Heating above 240°C (464°F)

**Hazardous decomposition products** Nitrogen trichloride, chlorine, carbon monoxide

**Hazardous polymerization** Will not occur

**Summary of Reactivity:**  
Oxidizer: Yes  
Organic Peroxide: No  
Pyroforic: No  
Water Reactive: No

## 11. Toxicological information

**Acute toxicity:**  
- Rat oral LD50 735 mg/kg  
- Rabbit dermal LD50 >2000 mg/kg  
- Rat inhalation LC50 >50 mg/m<sup>3</sup>/1 hour  
- Eye irritation (rabbit) Corrosive  
- Dermal irritation (rabbit) Corrosive

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<b>- Dermal sensitization --(guinea pig)</b>	Not a sensitizer
<b>Immediately Dangerous to Life or Health (IDLH)</b>	No level has been established for the components or the product itself.
<b>Target organ effects</b>	This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract. There are no known or reported effects from repeated exposure. Toxicological investigation indicates it does not produce significant effects from chronic exposure.
<b>Chronic toxicity</b>	Chronic inhalation exposure may cause impairment of lung function and permanent lung damage.
<b>Mutagenicity</b>	Not mutagenic in five Salmonella strains with or without metabolic activation.
<b>Carcinogenicity</b>	Not known to be a carcinogen. Not classified by IARC, OSHA, EPA. Not included in NTP 8th Report on Carcinogens.
<b>Reproductive toxicity</b>	Sodium dichloroisocyanuric acid when given orally to pregnant mice from day 6 to day 15 of gestation, did not induce any significant teratogenic effects.

## 12. Ecological information

<b>Aquatic toxicity :</b>	
- 96 Hour-LC50, Fish	0.22 mg/l (Rainbow trout) 0.28 mg/l (bluegill sunfish)
- 48 Hour-LC50, Daphnia magna	0.2 mg/l
<b>Avian toxicity:</b>	
- Oral LD50, Bobwhite quail	730 mg/kg
- Oral LD50, Mallard duck	3300 mg/kg
- Dietary LC50, Mallard duck	>10,000 ppm
- Dietary LC50, Bobwhite quail	>10,000 ppm

## 13. Disposal considerations

<b>Waste disposal</b>	Care must be taken to prevent environmental contamination from the use of this material. Observe all federal, state and local environmental regulations when disposing of this material.
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## 14. Transportation information

**DOT**    Not regulated

**IMO**    Not regulated  
**ICAO/IATA**                                        Not regulated

## 15. Regulatory information

**USA**    Reported in the EPA TSCA Inventory

**- EPCRA (SARA title III)**                        Section 311/312 Categorization (40CFR 370.2):This product is categorized as an immediate health hazard, and fire physical hazard.  
Section 313 Information (40CFR 372):This product does not contain a chemical listed at or above de minimis concentrations.

**- WASTE CLASSIFICATIONS**                        If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D.

**- WORKPLACE CLASSIFICATION**                        This product is considered hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200).

**EEC**    Reported in EINECS (No. 2207677)

## 16. Other information

### Further information

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product.  
This information has been prepared for the guidance of plant engineering, operations and management and for persons working with or handling this product.  
Additionally, if this Material Safety Data Sheet is more than three years old, you should contact Alliance Trading, Inc. at the phone number listed below to make certain that this sheet is current.

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## **Prepared by**

Alliance Trading, Inc.  
109 Northpark Blvd., 4<sup>th</sup> Floor  
Covington, LA 70433  
(985) 892-5521

**End of safety data sheet**