

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY OR UNDERTAKING

IDENTIFICATION OF THE SUBSTANCE OR PREPARATION

Tradename **RETRO**
Design Code **A1412A**

COMPANY IDENTIFICATION

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2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS

CAS-NO.	CHEMICAL NAME	CONCENTRATION (% W/W)	HAZARD SYMBOLS	RISK PHRASES (R)
85-00-7	diquat dibromide	31.8	T+, N	22, 23, 36/37/38, 43, 48/25, 50/53

For the full text of the R phrases mentioned in this section, see section 16.

3. HAZARDS IDENTIFICATION

Toxic by inhalation. Harmful if swallowed. Irritating to respiratory system and skin. Toxic: danger of serious damage to health by prolonged exposure if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

General advice: Have the product container, label or Material Safety Data Sheet with you when calling the Syngenta emergency number, a Poison Control Centre or physician, or going for treatment.

Inhalation: Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or Poison Control Centre immediately.

Skin contact: Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If symptoms persist, call a physician. Wash contaminated clothing before re-use.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Ingestion: If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting.

Symptoms: Inflammation of the mouth, throat and oesophagus, gastrointestinal discomfort, diarrhoea.

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Medical advice: Administer either activated charcoal (100 g for adults or 2 g/kg body weight in children) or Fuller's Earth (15% solution; 1 litre for adults or 15 ml/kg body weight in children). NOTE: The use of gastric lavage without administration of an adsorbent has not shown any clinical benefit. Eye contact: Severe damage may be caused by apparently trivial contact and healing may be delayed. Medical supervision should continue until complete healing has occurred.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA

Extinguishing media – small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media – large fires: Use alcohol-resistant foam or water spray.

Extinguishing media which must not be used for safety reasons: Do not use a solid water stream as it may scatter and spread fire.

Specific hazards during fire fighting: As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.

Special protective equipment for fire fighters: Wear full protective clothing and wear self-contained breathing apparatus.

Further information: Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Refer to protective measures listed in sections 7 and 8.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

Methods for cleaning up: Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13).

Additional advice: If the product contaminates rivers and lakes or drains inform respective authorities.

7. HANDLING AND STORAGE

HANDLING

Advice on safe handling: Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8. Spray solutions should not be mixed, stored or applied in containers other than plastic, plastic-lined steel, stainless steel or fibreglass.

STORAGE

Requirements for storage areas and containers: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feed.

Other data: Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

Components	Exposure limit(s)	Value type	Source
diquat dibromide	0.5 mg/m ³ 1 mg/m ³	8 h TWA 15 min STEL	UK HSE

ENGINEERING MEASURES

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. If airborne mists or vapours are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Seek additional occupational hygiene advice.

PERSONAL PROTECTIVE EQUIPMENT

When using this product refer to the label for details. In all other cases, use the following Personal Protective Equipment:

Protective measures: The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards.

Respiratory protection: A particulate filter respirator may be necessary until effective technical measures are installed. Protection provided by air-purifying respirators is limited. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

Hand protection: Chemical resistant gloves are not usually required. Select gloves based on the physical job requirements.

Eye protection: Eye protection is not usually required. Follow any site specific eye protection policies.

Skin and body protection: No special protective equipment required. Select skin and body protection based on the physical job requirements.

9. PHYSICAL AND CHEMICAL PROPERTIES

Colour:	Light brown to dark brown.
Physical State/Form:	Liquid.
Odour	Odourless.
pH Value (quant.):	4–5.5
Oxidising Properties	Not oxidising.
Density:	1.174 g/ml at 20°C
Explosive Properties:	Not explosive.
Water Solubility:	Soluble.

10. STABILITY AND REACTIVITY

Materials to avoid: Aluminium, mild steel & iron

Hazardous decomposition products: Combustion or thermal decomposition will evolve toxic and irritant vapours. **Hazardous reactions:** Corrosive in contact with metals

HERBICIDE

11. TOXICOLOGICAL INFORMATION**ACUTE TOXICITY (LETHAL DOSES)**

Oral LD₅₀ female rats: approx 550 mg/kg

Dermal LD₅₀ rat (both genders): >5000 mg/kg

Inhalation LC₅₀ rat (both genders): 0.64 mg/l 4 hours

Nose bleeding and soreness of the throat may result from spray mist or dust trapped on the nasal mucosa.

ACUTE TOXICITY (IRRITATION, SENSITISATION, ETC.)

Eye Irritation, rabbit: Mild irritant.

Skin Irritation, rabbit: Moderately irritant.

Skin Sensitisation, Guinea Pig: Not sensitising.

LONG-TERM EXPOSURE

Did not show mutagenic effects in animal experiments.

Did not show carcinogenic effects in animal experiments.

Did not show reproductive toxicity effects in animal experiments.

Did not show teratogenic effects in animal experiments.

Ocular effects (cataracts) have been reported following long-term oral exposure of laboratory animals. This is not considered to be a risk to man when handled and used as directed on the label. This information refers to diquat dibromide.

12. ECOLOGICAL INFORMATION**ELIMINATION INFORMATION (PERSISTENCE AND DEGRADABILITY)**

Bioaccumulation: Diquat has low potential to bioaccumulate.

Mobility: Diquat is immobile in soil.

ECOTOXICITY

(Derived from active ingredient(s))

Toxicity to Fish: LC₅₀ 96 hours *Oncorhynchus mykiss* (rainbow trout): >100 mg/l

Toxicity to Daphnia: EC₅₀ 48 hours *Daphnia magna* (water flea): 7 mg/l

Toxicity to Algae: EbC₅₀ 96 hours *Scenedesmus subspicatus* (green algae): 66 µg/l

Toxicity to Algae: ErC₅₀ 96 hours *Scenedesmus subspicatus* (green algae): 114 µg/l

13. DISPOSAL CONSIDERATIONS

Product: Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging: Empty remaining contents. Triple rinse containers. Empty containers should be taken for local recycling or waste disposal. Do not re-use empty containers.

14. TRANSPORT INFORMATION

LAND/SEA/AIR (RID/ADR/IMDG/IATA)	Class	UN Number	Packaging Group
	8	1760	III
Proper Shipping Name	CORROSIVE LIQUID, N.O.S., (DIQUAT DIBROMIDE)		
Marine pollutant:	YES		

15. REGULATORY INFORMATION

Labelling according to EC Directives

Hazardous components which must be listed on the label: diquat dibromide

Classifications/ Hazard symbols:	T	TOXIC
Risk phrases (R):	N	DANGEROUS FOR THE ENVIRONMENT
	22	Harmful if swallowed.
	23	Toxic by inhalation.
	37/38	Irritating to the respiratory system and skin.
	48/25	Toxic: danger of serious damage to health by prolonged exposure if swallowed.
	50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrases (S):	2	Keep out of the reach of children.
	13	Keep away from food, drink and animal feeding stuffs.
	20/21	When using, do not eat, drink or smoke.
	28	After contact with skin, wash immediately with water.
	35	This material and its container must be disposed of in a safe way.
	36/37	Wear suitable protective clothing and gloves. In case of insufficient ventilation wear suitable respiratory equipment.
	38	In case of insufficient ventilation wear suitable respiratory equipment.
	45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
	57	Use appropriate containment to avoid environmental contamination.
Special label	To avoid risks to man and the environment, comply with the instructions for use. Contains diquat dibromide. May produce an allergic reaction.	

16. OTHER INFORMATION

Always read the label. Use pesticides safely.

Product registration number: MAPP 13841.

Based upon SDS version 17 release date 29.05.2009 with local assessments.

Text of R phrases mentioned in Section 2:

R22 Harmful if swallowed.

R26 Very toxic by inhalation.

R36/37/38 Irritating to eyes, respiratory system and skin.

R43 May cause sensitisation by skin contact.

R48/25 Toxic: danger of serious damage to health by prolonged exposure if swallowed.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

H E R B I C I D E

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.