

MATERIAL SAFETY DATA SHEET



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n-virol

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1. PRODUCT IDENTIFICATION

Trade Name	n-virol Algae & Moss Killer
Description	Wood preservative and surface biocide

2. HAZARDOUS INGREDIENTS

Component	CAS No	Classification	Concentration
di-n-decyl dimethylammonium chloride	7173-51-5	C,Xn; R22-34	2.5 - 10%
propanol-2-ol	67-63-0	Xi, F; R11-36-67	2.5 - 5%
Ingredients according to Directive 648/2004/EC: Cationic surfactants			5.0 -15%

3. HAZARD IDENTIFICATION

Hazard designation	Xi; Irritant
Health	The product is classified as irritating to eyes and skin
Environmental	R36/38 Irritating to eyes and skin

4. FIRST AID MEASURES

General information	Supply fresh air; consult doctor in case of symptoms
Inhalation	
Skin contact	Remove contaminated clothing immediately. Wash skin immediately with plenty of water and soap and rinse thoroughly. If skin irritation occurs, get medical advice.
Eye contact	Rinse eyes thoroughly with plenty of water for at least 10 minutes while holding eyelids open. If symptoms persist, consult a physician.
Ingestion	Rinse out mouth and then drink plenty of water. Do not induce vomiting. Call for medical help. Do not give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

General Hazard	THE PRODUCT IS NOT FLAMMABLE
Extinguishing media	To suit local surroundings (e.g. water spray, carbon dioxide, foam or chemical powder).
Extinguishing media Not to be used	All extinguishing media can be used
Special exposure hazards	The thermal decomposition products released should be considered toxic if inhaled
Protective equipment	Wear approved self-contained breathing apparatus and full protective clothing

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up	Adhere to personal protective measures. Take up with absorbent material, e.g. sand, sawdust into tightly closable containers. Label container and dispose of as described.
Environmental considerations	Prevent the material from entering drains or watercourses. If this occurs, inform relevant water authority if spillage has entered water course or sewer or has contaminated soil or vegetation.

7. HANDLING & STORAGE

Advice on safe handling	Handle in accordance with good hygiene and safety practice
Storage conditions	Ensure adequate ventilation of the storage area. Keep containers tightly closed and dry.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure controls	There are no occupational exposure limit values available
Engineering controls	Ensure adequate ventilation of working area
Personal protection	Observe normal standards for handling chemicals. Avoid contact with skin and eyes. Wash hands before breaks and after work. Wear protective equipment appropriate to the task (see below)
Eye protection	Safety goggles (e.g. EN 166)
Skin protection	Butyl rubber gloves (also consider your own risk assessment; e.g. breakthrough times, rates of diffusion and degradation, tasks undertaken)
Respiratory protection	Respirator if ventilation is judged to be insufficient
Other protection	Protective overalls

9. PHYSICAL & CHEMICAL PROPERTIES

Physical form	Clear mobile liquid
Colour	Clear liquid
Odour	Odourless
pH	Neutral
Boiling pt /range	From 100 °C
Melting pt /range	°C
Flash point°	>60 °C
Autoflammability	°C
Water solubility	Water solubility fully miscible

10. STABILITY & REACTIVITY

Stability	Stable under normal conditions of handling
Conditions to avoid	Avoid strong heat
Material to avoid	water reactive substances
Hazardous reactions	No dangerous reactions known
Hazardous decompositions products	None, if storage and handling is done according to specification

11. TOXICOLOGICAL INFORMATION

Acute toxicity: LD/LC₅₀ values that are relevant to the classification:	
7173-51-5 di-n-decyl dimethylammonium chloride	
Oral	LD50 330mg/kg (rat)
Dermal	LD50 1330mg/kg (rat)
67-63-0 propan-2-ol	
Oral	LD50 4570mg/kg (rat)
Dermal	LD50 13400mg/kg (rab)
Inhalation	LC50 / 4 h 30mg/l (rat)
Primary irritant effect:	
On the skin	Irritant for skin and mucous membranes.
On the eye	Irritant effect.
Sensitization	No sensitising effect known.

12. ECOLOGICAL INFORMATION

Aquatic toxicity:	
7173-51-5 di-n-decyl dimethylammonium chloride	
EC ₅₀ / 48 h	0.03 mg/l (Daphnia)
EC ₅₀ / 48 h	0.06 mg/l (Selenastrum capricornutum)
LC ₅₀ / 48 h	0.5 mg/l (Brachydanio rerio)
67-63-0 propan-2-ol	
EC ₅₀ / 48 h	13299 mg/l (Daphnia)
EC ₅₀ / 72 h	>1000 mg/l (Scenedesmus subspicatus)
IC ₅₀ / 17 h	5175 mg/l (Pseudomonas putida)
IC ₅₀ / 72 h	>100 mg/l (Algae) >100 mg/l (bacteria)
LC ₅₀ / 48 h	LC50 / 48 h 8970 mg/l (Leuciscus idus m.)
LC ₅₀ / 96 h	LC50 / 96 h >100 mg/l (Fish)
Degradability: The DDAQ ingredient is readily biodegradable to EU guidelines.	

13. DISPOSAL CONSIDERATIONS

Advice on disposal	In accordance with national and local authority regulations, e.g. hazardous waste or incineration
Contaminated packaging	Treat empty containers in the same way as the product or if possible wash out thoroughly and recycle.

14. TRANSPORT INFORMATION

UK Transport Information	UK Transport Classification: Not classified
UN No.	N/R
IMDG code	Not classified
RID / ADR	Not classified
IATA	Not classified

15. REGULATORY INFORMATION

Classification & labelling	This product is classified in accordance with the Chemicals (Hazard Information and Packaging for Supply) Regulations [CHIP3.1] Contains di-n-decyl dimethylammonium chloride Xi; IRRITANT	
Risk phrases	R36/38	IRRITATING TO EYES AND SKIN
Safety phrases	S26	IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
	S36/37/39	WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE FACE PROTECTION.
	S60	THIS MATERIAL AND/OR ITS CONTAINER MUST BE DISPOSED OF AS HAZARDOUS WASTE.
Identity of biocidal active substances according to EC directive 98/8/EC		
di-n-decyl dimethylammonium chloride		

16. OTHER INFORMATION

This information is based on our present state of knowledge and is intended to describe our products from the point of view of the safety requirements. It should not be construed as guaranteeing specific properties and does not establish a legally valid contractual relationship.