



CLAYMAN

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SAFETY DATA SHEET

5155	CRYOLITE
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1. Identification of substance/preparation and of the company undertaking	
Trade Name:	Cryolite
Chemical Name:	Trisodium hexafluoroaluminate Na_3AlF_6
Synonyms:	Sodium aluminium fluoride

2. Composition /information on ingredients					
Component	CAS	EINECS	Symbols	R Phrases	% of composition
Sodium aluminium Fluoride	15096-52-3	239-148-9	T, N	20/22, 48/23/25 51/53,	>95
The material is classified as 'Toxic' and 'Dangerous for the Environment' (EU Directives and UK Regs)					

3. Hazards Identification	
Inhalation	May cause irritation of the nose and throat and possibly respiratory sensitisation
Ingestion	Intake of large quantities may cause nausea, vomiting, abdominal cramps, diarrhoea, cardiac rhythm disorders, hypocalcaemia with nervous disorders and liver damage
Eyes	May cause slight irritation
Skin	May cause irritation of the skin. Repeated contact may cause allergic dermatitis
Environment	Toxic to aquatic organism



4. First Aid Measures	
Inhalation	Remove patient to fresh air, loosen clothing, seek medical attention
Ingestion	Do not induce vomiting but seek medical advice If subject is completely conscious: - Rinse mouth with water and give 1% aqueous calcium gluconate solution to drink. Administer oxygen if nervous, respiratory or cardiovascular disorders evident
Eyes	Wash immediately with copious amount of water for 15 minutes, keeping eyelids open. If any pain persists, seek medical attention
Skin	Remove contaminated clothing. Wash affected areas with plenty of soap and water. Seek medical advice if any ill-effects persists

5. Fire Fighting Hazards	
Extinguishing media	Suitable for surrounding fire conditions. If water is used do not allow run off to contaminate water courses
Special exposure hazard	Material decomposition will result in the emission of toxic fumes.
Personal protective equipment	Self-contained breathing apparatus.

6. Accidental Release Measure	
Leaks and spills	Avoid generation of dust Use suitable vacuum equipment where reasonably practicable, otherwise damp down and scoop into a labelled receptacle for subsequent disposal. If significant quantity enters surface drains/water courses, notify authorities responsible for environmental protection
Personal protective equipment	See Section 8

7. Handling & Storage	
Handling	Do not eat, drink or smoke in areas where the material is used. Wash thoroughly after handling the material.
Storage	Store in a secure container in a dry area

8. Exposure Control/Personal Protection		
Engineering controls	Adequate ventilation should be provided so that Occupational Exposure Limits are not exceeded. Local exhaust ventilation is preferable to personal protection.	
Personal protective equipment	Where necessary, suitable personal protection should be used (e g overalls, PVC gloves, dust proof goggles, mask for toxic dusts).	
UK Occupational exposure limits (Refer to HSE Guidance note EH40)	mg/m ³ 8 hr TWA	% in material
Fluoride (as F)	2.5	50-55



9. Physical & Chemical Properties	
Appearance & odour	White/slightly coloured powder, odourless.
Flash point (°C)	Not applicable
Flammability	Not applicable
Explosive properties	Non-explosive
Oxidising properties	None
Specific gravity	2.95
pH value	6 (at 0.42 g/litre at 20°C)
Melting point (°C)	Decomposes at >1000°C

10. Stability & Reactivity	
Chemical stability	The material is stable
Conditions/materials to avoid	Strong acids and bases
Hazardous decomposition products	Hydrogen fluoride
Hazardous polymerization products	None

11. Toxicological Information			
Acute toxicity	LD ₅₀	Oral (rat)	> 2000 mg/kg.
	Non irritant to skin and eyes rabbit		
	LC ₅₀	Inhalation	Not Known
Health effects	Chronic exposure may entail dental or skeletal fluorosis (See Section 3).		

12. Ecological Information	
Toxic to aquatic organisms	Material fate highly dependant on conditions e.g pH, temperature, mineral and organic content of medium
Acute ecotoxicity	Fishes, <i>Salmo gairdneri</i> . LC50, 96 hours, 47mg/l Crustaceans, <i>Daphnia pulex</i> , EC50, 48 hours, 5mg/l Algae, <i>Scenedesmus quadricauda</i> , NOEC, 96 hours, 5000mg/l
Persistence	The material is not itself biodegradable (inorganic compound), is of low solubility and mobility in water/soil. Reactivity in environment dependent on conditions
Bioconcentration	Accumulation into vegetable leaves (fluorides)

13. Disposal Considerations	
Dispose of in accordance with the current Waste Disposal Regulations (for UK Special Waste regulations 1996). Landfill is the most appropriate method	



14. Transport Information		
U.N. / S.I. No.:		3077 Environmentally hazardous substance, solid, n o s (trisodium hexafluoroaluminate)
U.N. Class:		9
Packing group:		III
Road:	UK:	As above
	ADR:	Item code 12 ⁰ (c)
Sea:	IMO:	As above + Marine Pollutant
Air:	ICAO:	As above

15. Regulatory Information		
EC Supply labelling		TOXIC T and DANGEROUS FOR THE ENVIRONMENT N
R-Phrases	R20/22	Harmful by inhalation and if swallowed
	R48/23/25	Toxic. Danger of serious damage to health by prolonged exposure through inhalation and if swallowed
	R51/53	Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment
S- Phrases	S22	Do not breathe dust
	S36/37	Wear suitable gloves
	S45	In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)
	S61	Avoid release to the environment. Refer to special instructions/safety data sheet
<p>In accordance with the HSE Approved Code of Practice for CHIP. The recipient is reminded of their obligations under both the Health and Safety at Work Act (HSWA) and the Control of Substances Hazardous to Health Regulations (COSHH), and that the information in any safety data sheet does not constitute the user's assessment of workplace risk.</p>		

16. Other Information	
COSHH ACOP	HSC approved Code of Practice for the Control of Substances Hazardous to Health Regulations 1994
CHIP 96	Chemicals (Hazard Information and Packaging for Supply) Regulations 1996
CHIP SDS ACOPS	HSC Approved Code of Practice for Safety data Sheets in accordance with regulation 6 of the CHIP regulations
HSE EH40	HSE Guidance note EH40 on Occupational Exposure Limits to be used in conjunction with the COSH regulations