

Safety Data Sheet

Section 1: SUBSTANCE IDENTIFICATION AND SUPPLIER	
Product name:	Sodium Chlorate 99%
Other Names:	Agrosan; Asex; Atlacide; Atratol; B-Herbatox; Desolet; Drexel defol; Grain sorghum harvest-aid; Granex O; Harvest-aid; Hibar C; Kusatol; Leafex 2; Oxycil; Rasikal; Soda chlorate; Sodakem; Travex; Tumbleaf
Chemical formula:	NaClO ₃
Recommended Use:	As an agricultural herbicide and in uranium mining
Company Identification:	Kemcore International Limited
Address:	133 CONNAUGHT RD UNIT 703 ALLIANCE COMM BLDG, HONGKONG
Customer Centre:	
Section 2: HAZARD IDENTIFICATION	
Emergency Overview:	Sodium Chlorate solution is clear to very pale yellow. The solution is odourless. It is harmful if swallowed. Sodium chlorate is a very strong oxidizer. Sodium chlorate does not burn but contact with organic materials such as wood, paper, oil, clothing may cause fire or explosion. In case of a fire, only use water to extinguish the fire. May form shock sensitive mixtures. Contact with acids may produce toxic chlorine dioxide and chlorine gas.
Potential Acute Health Effects	Contact causes irritation of eyes and skin. Ingestion may cause nausea, vomiting, diarrhea, abdominal or gastric pain, dyspnea and other symptoms. The major cause of death from a lethal dose is acute renal failure.
Routes of entry:	Inhalation (breathing); eye and skin contact; ingestion (swallowing).
Target organs:	Blood, Kidney, Liver

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Skin contact:	Direct contact with dust or concentrated solutions can cause mild irritation.
Eye contact:	Dust or mist may cause temporary eye irritation and mild pain until material is rinsed from the surface of the eye.
Inhalation:	Sodium chlorate dust or mist may cause coughing and mild temporary irritation of the nose and throat.
Ingestion:	Non-occupational ingestion has produced death. Initial symptoms include vomiting, diarrhea, nausea, and abdominal pain. After several hours or more, there may be severe intestinal bleeding, destruction of red blood cells and formation of inactive hemoglobin. Urine may be dark with blood clots. Within a day, kidney damage or kidney failure may occur, with cessation of urination. Liver damage, laboured breathing, convulsions, and coma may also develop. Recovery may take several weeks and may not be complete.
Chronic Exposure:	Repeated and prolonged exposure of the skin can cause dermatitis. Repeated exposure by inhalation or ingestion may result in toxic effects, which appear gradually over weeks. Initially there may be abdominal pain, followed by internal bleeding, destruction of red blood cells, lung damage, liver damage, and kidney damage. The skin may be bluish.
Explanation of carcinogenicity:	This product is not listed by IARC, NTP, or OSHA, as a carcinogen.
Medical conditions aggravated by exposure:	Breathing or respiratory disorders, digestive tract, kidney and blood disorders could be aggravated by exposure to this chemical.

Section 3: Composition Information

INGREDIENT	CAS No.	CONTENT
Sodium Chlorate	7775-09-9	99%
Water	7732-18-5	1%

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Section 4: FIRST AID MEASURES	
Inhalation:	If inhaled, move to fresh air. If not breathing, clear away and start mouth-to-mouth artificial respiration or use a bag-mask respirator. Get immediate medical attention. If victim is having trouble breathing, transport to medical care and, if available, give supplemental oxygen.
Ingestion: a	Immediately give 3-4 glasses of water and induce vomiting. Give fluids until vomitus is clear. Do not induce vomiting or give anything by mouth to an unconscious person. Get immediate medical attention.
Skin:	Wash affected areas with plenty of water, and soap if available, for several minutes. Remove and clean contaminated clothing and shoes. Seek medical attention if irritation develops or persists.
Eye:	Immediately rinse eyes with water. Remove any contact lenses, and continue flushing eyes with running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eye and lids with water. Get immediate medical attention.
Advice to Doctor:	Chemical of exposure is sodium chlorate, a strong oxidizer and methemoglobin former. Cyanosis, resistant to oxygen therapy, may be noted within several hours following ingestion or inhalation. Large doses can affect the kidneys, liver, and central nervous system and may be fatal.
Section 5: FIREFIGHTING MEASURES	
Flash Point:	Not applicable.
Combustion Products:	Noxious or toxic vapours may be released in fire situation.
Extinguishing Media:	Use water only. For small fires, do not use CO ₂ or dry chemical. For large fires, use flooding quantities of water as fog or spray applied from a distance. For a massive fire in a storage area use

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	an unmanned hose holder or monitor nozzles; if this is impossible, withdraw from the area and let the fire burn.
Protective Equipment:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
HAZCHEM Code:	1se
Section 6: ACCIDENTAL RELEASE MEASURES	
Spills and Disposal:	Avoid dry sweeping or other methods which raise dust. Do not use combustible materials (such as sawdust) to soak-up spillages. Vacuum or wet-sweep and place into a suitable closable, labelled container for disposal. Wash the area clean with water and detergent, observing environmental requirements.
Protective Clothing:	Avoid breathing dust. Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition.
Environmental:	Prevent material from entering drains or water courses. Advise the Environment Agency or relevant local authority if contamination of soil or water systems occurs.
Section 7: HANDLING AND STORAGE	
Handling:	Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Avoid ingestion and inhalation. Inform laundry personnel of contaminant's hazards.
Storage:	Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from reducing agents.
Other Information:	

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Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION	
Exposure Limits:	Not available.
Protective Equipment:	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Wear appropriate protective gloves to prevent skin exposure. Wear appropriate protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.
Engineering Controls:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Hygiene Precautions:	Do not taste or swallow. Use with adequate ventilation. Wash thoroughly after handling. Keep away from food or drinking water.
Section 9. PHYSICAL AND CHEMICAL PROPERTIES	
Appearance:	White color
Odour:	Odourless
Specific Gravity:	2.49 at 20°C
Bulk Density:	Approx. 100
pH:	5.0-7.0
Solubility in Water:	Soluble
Flash Point:	Not applicable
Melting Point:	248°C
Other Information:	

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Section 10: STABILITY AND REACTIVITY	
Stability:	Stable under normal temperatures and pressures.
Hazardous Decomposition Products:	Chlorine, irritating and toxic fumes and gases, oxygen, sodium oxide, chlorine dioxide, which may be spontaneously explosive.
Conditions to Avoid:	Ignition sources, dust generation, excess heat.
Materials to Avoid:	Reducing agents, acids, alcohols, aluminum, amines, ammonia, phosphorus, steel, sulfuric acid, cyanides (e.g. potassium cyanide, sodium cyanide), sulfides (inorganic, e.g. ferric sulfide, lead sulfide, sodium sulfide), arsenic, carbon, arsenic trioxide, sodium phosphinate, charcoal, ammonium salts, metal powders, organic materials, thiocyanates, peat, sawdust, urotropine, thiuram, cyanoborane oligomer, alkenes + potassium osmate, grease, leather, 1,3-bis (trichloromethylbenzene) + heat, ammonium sulphate, magnesium oxide, potassium cyanide.
Section 11: TOXICOLOGICAL INFORMATION	
ERMA Classification:	5.1.1.B, 6.1.D, 6.3B, 6.4A, 6.5B (contact), 6.9B (oral),
Ingestion:	May cause nausea, vomiting, abdominal pain, diarrhea, cyanosis, and/or anuria (urine shutdown). May be fatal if ingested in significant amount (10 to 30 grams have been reported as fatal in humans).
Inhalation:	Harmful if inhaled as dust.
Skin:	Prolonged contact may cause irritation.
Eye:	May cause irritation.
Chronic Effects:	May affect genetic material (mutagenic). Although no information has been found regarding the reproductive hazards of Sodium Chlorate, substances which can induce methemoglobinemia are

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	of concern for possible reproductive effects since the fetus has an increased oxygen demand. Fetal hemoglobin is more easily oxidized to methemoglobin than is adult hemoglobin, and fetal methemoglobin is reduced back to normal more slowly than the adult form.
Other Information:	
Section 12: ECOLOGICAL INFORMATION	
ERMA Classification:	9.1B (algal), 9.2C, 9.3C
Ecotoxicity:	Non-selectively toxic to plants. Very toxic to brown algae
Section 13: DISPOSAL INFORMATION	
Product Disposal:	Sodium chlorate solution is classified as a hazardous waste. Contact a waste disposal company for advice for regional regulations.
Container Disposal:	Empty containers may contain residues and should be washed thoroughly prior to disposal. The wash water should be handled as a hazardous waste.
Section 14: TRANSPORT INFORMATION	
UN Number:	2428
Proper Shipping Name:	SODIUM CHLORATE
DG Class:	5.1
UN Packing Group:	II
Other Information:	



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Section 15: REGULATORY INFORMATION
WHMIS Classification: C - Oxidizing material D2B - Materials Causing Other Toxic Effects. Subdivision B: Toxic Material
OSHA Hazard Communication Evaluation : Meets criteria for hazardous material, as defined by 29 CFR 1910.1200.
NFPA Ratings: Health (Blue): 1 Flammability (Red): 0 Instability/Reactivity (Yellow): 2 Special (White): OX
Section 16: OTHER INFORMATION