

MATERIAL SAFETY DATA SHEET

IDENTIFICATION & USE	TYPE OF PRODUCT Low Level Sodium Reagent		CHEMICAL FAMILY organic amine			
	PRODUCT NUMBER Orion 151111		FORMULA C ₂ H ₅ NH ₂			
	MANUFACTURER'S NAME AND ADDRESS Thermo Fisher		PRODUCT USE			
	166 Cummings Center		EMERGENCY TELEPHONE NO. 800-424-9300			
	Beverly, MA 01915		Poison Info Centre: 1 800 268-9017			
HAZARDOUS INGREDIENTS	CONTAINER SIZE AND TYPE		USE AS RECEIVED		YES	
	SHIPPING NAME Flammable Liquids N.O.S. Solution (ethylamine)		CLASS		3.3	
	PIN 1993		WHMIS Classification B2,D1B,E: flammable, toxic, corrosive		PACKING GROUP III	
	CONCENTRATION [*]		HAZARDOUS INGREDIENTS		CHEMICAL NAMES	
	1	33	Monoethylamine		LD ₅₀ mg/kg	CAS REGISTRY NO.
				188 mg/kg	75-04-7	
PHYSICAL DATA	FREEZING POINT		0 °C	MELTING POINT		N. Appl. °C
	VAPOUR PRESSURE		400mm Hg 20°C	VAPOUR DENSITY (AIR = 1)		N.A.
	COEFFICIENT OF WATER/OIL DISTRIBUTION		No Data	EVAPORATION RATE		No Data
	ODOUR THRESHOLD		No Data	PHYSICAL STATE		GAS LIQUID PASTE SOLID POWDER X
	ODOUR AND APPEARANCE Colourless, strong ammoniacal odour					
FIRE & EXPLOSION DATA	FLASH POINT AND METHOD OF DETERMINATION		25°C, closed cup		FLAMMABLE LIMITS	
	CONDITIONS OF FLAMMABILITY				L.E.L.	U.E.L.
					3.5%	14.0%
	MEANS OF EXTINCTION Carbon dioxide, dry chemical, alcohol foam.					
	HAZARDOUS COMBUSTION PRODUCTS Toxic fumes. Dangerous when exposed to open flames or heat.					
				AUTO IGNITION TEMP.		400 °C
EXPLOSION DATA		SENSITIVITY TO MECHANICAL IMPACT None				
		SENSITIVITY TO STATIC DISCHARGE No data				
SPECIAL FIRE FIGHTING PROCEDURES Face shield should be worn, self-contained breathing apparatus.						

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REACTIVITY	STABLE	YES	CONDITIONS TO AVOID High temperature, open flame			PRODUCT NUMBER Orion 151111
	UNSTABLE					
	INCOMPATIBILITY—MATERIALS TO AVOID Strong oxidizers may cause violent splattering.					
	HAZARDOUS DECOMPOSITION PRODUCTS Ammonia and oxides of nitrogen and carbon upon terminal decomposition.					
CONDITIONS OF REACTIVITY						
HEALTH HAZARD DATA	HAZARDOUS ROUTES OF ENTRY	INHALATION YES	INGESTION YES	EYE CONTACT YES	SKIN CONTACT YES	SKIN ABSORPTION YES
	EFFECTS OF EXPOSURE (ACUTE) Burns of skin or eyes, vapours irritating to eyes, nose, throat and lungs (can cause severe damage). Coughing. Swallowing may cause severe injury or death. Avoid breathing fumes.					
	EFFECTS OF EXPOSURE (CHRONIC) May cause lung injury (pulmonary edema)					
	EXPOSURE LIMITS					
	SENSITIZATION TO PRODUCT Persons with breathing difficulties may be affected.					
	CARCINOGENICITY					
	OTHER TOXICOLOGICAL EFFECTS Carcinogenicity: Not found on IARC monographs or ACGIH lists					
	EMERGENCY AND FIRST AID PROCEDURES Get medical attention immediately.					
	Eyes and Skin: immediately flush with a stream of running water for a minimum of 15 minutes, occasionally lifting eye lid.					
	Inhalation: Remove victim to fresh air. Give artificial respiration if breathing has stopped.					
Ingestion: Get immediate medical attention. Do not induce vomiting, give large amounts of water if conscious.						
PREVENTIVE MEASURES	RESPIRATORY PROTECTION Self-contained breathing apparatus for spills, etc.					
	VENTILATION	LOCAL EXHAUST to control exposure limits			SPECIAL	
		MECHANICAL (GENERAL)			OTHER	
	HAND PROTECTION impervious gloves			EYE PROTECTION chemical goggles		
	PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL Remove all ignition sources, wear protective clothing. Ventilate area. Absorb spilled material (e.g. use vermiculite). Place in fiber carton. Incinerate. Wash area with soap and water.					
	WASTE DISPOSAL METHOD Dispose of at an approved landfill site or by incineration in accordance with local, provincial or federal regulations as required. To incinerate mix with flammable solvent, spray into incinerator equipped with afterburner and scrubber.					
	HANDLING PROCEDURES AND EQUIPMENT NFPA Rating: Health: 3, Fire: 4, Reactivity: 0, Specific: alkaline					
	STORAGE REQUIREMENTS Avoid direct sunlight and heat sources. Keep well sealed.					
	SPECIAL SHIPPING INFORMATION IATA: UN 1993 (307) pkg. group II cargo air only.					
	PREPARATION	PREPARED BY Peter Bakker		APPROVED BY Peter Bakker		TELEPHONE (519) 941-8161
TITLE Chemistry Manager		TITLE Chemistry Manager		DATE November 5, 2009		
		<i>Peter Bakker</i>				
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