

MATERIAL SAFETY DATA SHEET

IDENTIFICATION & USE	TYPE OF PRODUCT Hydrazine diffusion reagent		CHEMICAL FAMILY Inorganic Acid			
	PRODUCT NUMBER Orion 151811		FORMULA			
	MANUFACTURER'S NAME AND ADDRESS Thermoisher		PRODUCT USE			
	166 Cummings Center		EMERGENCY TELEPHONE NO. 1-800-424-9300			
	Beverly, MA 01915					
CONTAINER SIZE AND TYPE			USE AS RECEIVED	YES		
SHIPPING NAME Acetic Acid Solution, more than 80% by mass (mixture) Iodine			CLASS	8 (9.2)		
PIN 2789	WHMIS Classification B3 E; corrosive, combustible		PACKING GROUP	II		
HAZARDOUS INGREDIENTS	CONCENTRATION*	HAZARDOUS INGREDIENTS	CHEMICAL NAMES	LD ₅₀ mg/kg	LC ₅₀ **	CAS REGISTRY NO.
	1 95	Acetic acid		ORL-Rat	IHL-Rat	64-19-7
				3310mg/kg	5620ppm/h	
	1 5	Iodine		ORL-RAT		7553-56-2
				14g/kg		
* (1) % W/W (2) % V/V (3) % g/L			** SPECIES AND ROUTE			
PHYSICAL DATA	FREEZING POINT	16.6 °C	MELTING POINT	N. Appl. °C	BOILING POINT	118 °C
	VAPOUR PRESSURE	11 mmHg 20°C	VAPOUR DENSITY (AIR = 1)	2.1 (at boiling)	SPECIFIC GRAVITY (H ₂ O = 1)	1.4
	COEFFICIENT OF WATER/OIL DISTRIBUTION	No Data	EVAPORATION RATE	No Data	pH AT 25 °C	< 1
	ODOUR THRESHOLD	No Data	PHYSICAL STATE	GAS LIQUID PASTE SOLID POWDER		
	ODOUR AND APPEARANCE Dark red liquid, pungent, vinegar-like odour					
FIRE & EXPLOSION DATA	FLASH POINT AND METHOD OF DETERMINATION 41°C, closed cup		FLAMMABLE LIMITS	L.E.L. 5.4%	U.E.L. 16.0%	
	CONDITIONS OF FLAMMABILITY Moderate if exposed to flame, can react vigorously with oxidizing materials.					
	MEANS OF EXTINCTION Carbon dioxide, dry chemical, alcohol foam.					
	HAZARDOUS COMBUSTION PRODUCTS Toxic fumes if heated to decomposition.					
				AUTO IGNITION TEMP.	°C	
	EXPLOSION DATA	SENSITIVITY TO MECHANICAL IMPACT No Data				
		SENSITIVITY TO STATIC DISCHARGE No Data				
SPECIAL FIRE FIGHTING PROCEDURES						

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REACTIVITY	STABLE	YES	CONDITIONS TO AVOID High temperature		PRODUCT NUMBER Orion 151811	
	UNSTABLE					
	INCOMPATIBILITY—MATERIALS TO AVOID Strong caustics can cause violent spattering. Strong oxidizers (chromic acid, sodium peroxide, nitric acid, etc.) may cause fire or explosion. Toxic gases such as carbon monoxide may be released in a fire. Polymerization will not occur.					
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). Swallowing may cause severe injury or death.					
	EFFECTS OF EXPOSURE (CHRONIC) Darkening skin, erosion of teeth, irritation as above.					
	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					
	Inhalation: Remove victim to fresh air. Give artificial respiration if breathing has stopped.					
	Skin: immediately flush the exposed area with large amounts of water while removing contaminated clothing. Continue washing area for 15 minutes. Repeat flushing if irritation persists.					
	PREVENTIVE MEASURES	RESPIRATORY PROTECTION Self-contained breathing apparatus for spills, etc.				
VENTILATION		LOCAL EXHAUST recommended		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 on paper towels, evaporate in hood or follow procedure for waste disposal.						
WASTE DISPOSAL METHOD Dispose of at an approved landfill site or by incineration in accordance with local, provincial or federal regulations as required. Otherwise neutralize and dilute.						
HANDLING PROCEDURES AND EQUIPMENT Carefully neutralize with a basic material, flush resultant sodium acetate into sewer with plenty of water if municipal, provincial and federal laws allow.						
STORAGE REQUIREMENTS Store in well-ventilated area away from incompatibles. Avoid direct sunlight and heat sources.						
SPECIAL SHIPPING INFORMATION IATA: Acetic Acid Solution UN 2789 Pkg Group II (813)						
PREPARATION		PREPARED BY Peter Bakker		APPROVED BY Peter Bakker		TELEPHONE (519) 941-8161
	TITLE Chemistry Manager		DATE November 5, 2009			
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