

MATERIAL SAFETY DATA SHEET

IDENTIFICATION & USE	TYPE OF PRODUCT 0-100 ppm Alkalinity Reagent		CHEMICAL FAMILY organic acid solution				
	PRODUCT NUMBER Orion 172131		FORMULA				
	MANUFACTURER'S NAME AND ADDRESS Thermo Fisher		PRODUCT USE Analyzer reagent				
	166 Cummings Center		EMERGENCY TELEPHONE NO. 1-800-424-9300				
	Beverly, MA 01915						
	CONTAINER SIZE AND TYPE		USE AS RECEIVED	YES			
SHIPPING NAME		CLASS	9.2				
PIN	WHMIS Classification D2: other toxic		PACKING GROUP	III			
HAZARDOUS INGREDIENTS	CONCENTRATION*	HAZARDOUS INGREDIENTS	CHEMICAL NAMES	LD ₅₀ mg/kg	LC ₅₀ **	CAS REGISTRY NO.	
	1 0.6		succinic acid	SCU-frg		110-15-6	
				2 g/kg			
	1 0.5		sodium chloroacetate	orl-rat		3926-62-3	
				150 mg/kg			
	1 0.3		Hyamine 350C (BIONOL)	15		8001-54-5	
				WOPAR_FRG			
1 98.6		De-ionized water			7732-19-5		
* (1) % W/W (2) % V/V (3) % g/L			** SPECIES AND ROUTE				
PHYSICAL DATA	FREEZING POINT	< 0 °C	MELTING POINT	0 °C	BOILING POINT	> 100 °C	
	VAPOUR PRESSURE	NA	VAPOUR DENSITY (AIR = 1)	NA	SPECIFIC GRAVITY (H ₂ O = 1)	1	
	COEFFICIENT OF WATER/OIL DISTRIBUTION	No Data	EVAPORATION RATE	NA	pH AT 25 °C	3.9	
	ODOUR THRESHOLD	No Data	PHYSICAL STATE	GAS LIQUID PASTE SOLID POWDER	X		
	ODOUR AND APPEARANCE Colorless liquid, slight vinegar-like odor.						
FIRE & EXPLOSION DATA	FLASH POINT AND METHOD OF DETERMINATION		FLAMMABLE LIMITS		L.E.L.	U.E.L.	
	NA						
	CONDITIONS OF FLAMMABILITY none						
	MEANS OF EXTINCTION water, carbon dioxide, dry chemical						
	HAZARDOUS COMBUSTION PRODUCTS none						
					AUTO IGNITION TEMP.	°C	
	EXPLOSION DATA	SENSITIVITY TO MECHANICAL IMPACT		NA			
		SENSITIVITY TO STATIC DISCHARGE		NA			
SPECIAL FIRE FIGHTING PROCEDURES							

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REACTIVITY	STABLE	YES	CONDITIONS TO AVOID none		PRODUCT NUMBER Orion 172131	
	UNSTABLE					
	INCOMPATIBILITY—MATERIALS TO AVOID alkalies, metals					
	HAZARDOUS DECOMPOSITION PRODUCTS toxic fumes of chloroacetic acid may be given off if heated to decomposition					
CONDITIONS OF REACTIVITY						
HEALTH HAZARD DATA	HAZARDOUS ROUTES OF ENTRY	INHALATION	INGESTION YES	EYE CONTACT YES	SKIN CONTACT YES	SKIN ABSORPTION
	EFFECTS OF EXPOSURE (ACUTE) May be an irritant if allowed to dry on the skin. Could cause upset stomach and irritation of the stomach lining if ingested. Signs of exposure are stinging and irritation of skin, rashes.					
	EFFECTS OF EXPOSURE (CHRONIC)					
	EXPOSURE LIMITS					
	SENSITIZATION TO PRODUCT Skin diseases.					
	CARCINOGENICITY Ingredients not found on lists of carcinogenic products.					
	OTHER TOXICOLOGICAL EFFECTS none.					
	EMERGENCY AND FIRST AID PROCEDURES Skin, eyes: wash thoroughly with water.					
	Ingestion: drink large amounts of water.					
	Consult physician for all types of exposure.					
	PREVENTIVE MEASURES	RESPIRATORY PROTECTION Not applicable				
VENTILATION		LOCAL EXHAUST		SPECIAL		
		MECHANICAL (GENERAL)		OTHER		
HAND PROTECTION			EYE PROTECTION safety glasses			
PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL While wearing protective gear, neutralize with slaked lime, clean up and set aside for waste disposal.						
WASTE DISPOSAL METHOD Observe federal, state/provincial, and local regulations.						
HANDLING PROCEDURES AND EQUIPMENT Keep cool and well sealed to protect product quality. NFPA Ratings: Health - 1, Fire - 0, Reactivity - 0, Specific - none. SARA TITLE III - Chloroacetic acid is subject to section 313 of the law. This product does not appear on CAL Prop. 65. Components listed in EPA						
STORAGE REQUIREMENTS						
SPECIAL SHIPPING INFORMATION TSCA inventory.						
PREPARATION		PREPARED BY Peter Bakker		APPROVED BY Peter Bakker		TELEPHONE (519) 941-8161
	TITLE		TITLE		DATE	
			<i>Peter Bakker</i>		November 5, 2009	
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