

MATERIAL SAFETY DATA SHEET

ACRYLIC ACID, GLACIAL

PRODUCT IDENTIFICATION AND USE	
MANUFACTURER:	ARKEMA CANADA INC. 700 THIRD LINE OAKVILLE, ONTARIO L6J 5A3
EMERGENCY PHONE NUMBER:	(905) 827-9841 (ARKEMA) (613) 996-6666 (CANUTEC)
PRODUCT IDENTIFIER:	NORSOCRYL® ACRYLIC ACID, GLACIAL
PRODUCT CODE:	AC154100
PRODUCT USE:	ACRYLIC MONOMER
WHMIS CLASSIFICATION:	B3 - COMBUSTIBLE LIQUID D1A – VERY TOXIC MATERIAL CAUSING IMMEDIATE AND SERIOUS TOXIC EFFECTS E - CORROSIVE F - DANGEROUSLY REACTIVE MATERIAL.

HAZARDOUS INGREDIENTS			
% W/W	CAS #		TLV
ACRYLIC ACID LD50: 193 - 340 MG/KG (ORAL-RATS) LD50: 295-750 MG/KG (DERMAL-RABBITS) LC50: 3.6 MG/L (4-HR.-INHALATION-RAT)	> 99	79-10-7	ACGIH TWA = 2 PPM (SKIN)

ADDITIONAL INGREDIENT INFORMATION (WHMIS NOT CONTROLLED):

MONOMETHYL ETHER OF HYDROQUINONE (MEHQ)

PHYSICAL DATA	
PHYSICAL STATE:	LIQUID
ODOUR AND APPEARANCE:	CLEAR LIQUID WITH PUNGENT ODOUR.
ODOUR THRESHOLD:	282 PPT
SPECIFIC GRAVITY/DENSITY (G/ML):	1.049 @ 20°C
VAPOUR PRESSURE:	4 MBAR @ 20°C
VAPOUR DENSITY (AIR=1):	2.5
VOLATILITY/VOL(%):	100
SOLUBILITY IN H2O:	SOLUBLE
EVAPORATION RATE:	NE
BOILING POINT:	141.3°C
FREEZING POINT:	13°C
PH:	2.63 (0.1 M SOLUTION)
LOG KOW:	0.38

SHIPPING INFORMATION

UN 2218, 8(3), II, ACRYLIC ACID, STABILIZED.

FIRE AND EXPLOSION HAZARD

FLAMMABILITY:	COMBUSTIBLE
CONDITIONS:	WILL BURN ABOVE FLASHPOINT
MEANS OF EXTINCTION:	WATER SPRAY, CARBON DIOXIDE, FOAM OR DRY CHEMICAL
FLASHPOINT:	54 °C (CLOSED CUP)

UPPER EXPLOSION LIMIT (% V):	19.8%
LOWER EXPLOSION LIMIT (%V):	3.9%
AUTO-IGNITION TEMPERATURE:	429 °C
HAZARDOUS COMBUSTION PRODUCTS:	OXIDES OF CARBON.
EXPLOSION DATA:	NE
SENSITIVITY TO IMPACT:	NO
SENSITIVITY TO STATIC DISCHARGE:	NE

REACTIVITY	
CHEMICAL STABILITY:	UNSTABLE
INCOMPATIBLE MATERIALS:	FREE RADICALS, PEROXIDES, OXIDIZERS, STRONG BASES, STRONG ACIDS, AMINES, COPPER, NICKEL, ZINC
CONDITIONS OF REACTIVITY:	THE UNCONTROLLED POLYMERIZATION OF THE PRODUCT MAY PRODUCE AN EXPLOSION OF UNVENTED CLOSED CONTAINER. AVOID HEAT, CONTAMINATION, OXYGEN-FREE ATMOSPHERE, INHIBITOR DEPLETION OR ULTRAVIOLET LIGHT TO PREVENT HAZARDOUS POLYMERIZATION. CHECK THE INHIBITOR CONTENT PERIODICALLY (TYPICALLY EVERY 90 DAYS FOR BULK CONTAINERS).
HAZARDOUS DECOMPOSITION PRODUCTS:	HYDROGEN GAS IN THE PRESENCE OF COPPER, NICKEL OR ZINC.

HEALTH HAZARD INFORMATION

ROUTE OF ENTRY

SKIN CONTACT:	CORROSIVE. MAY CAUSE BURNS.
SKIN ABSORPTION:	HARMFUL IF ABSORBED
EYE:	CORROSIVE. MAY CAUSE BURNS. MAY CAUSE BLINDNESS.
INGESTION:	HARMFUL IF SWALLOWED.
INHALATION:	HARMFUL IF INHALED.
ACUTE OVER EXPOSURE EFFECTS:	NE
CHRONIC OVER EXPOSURE EFFECTS:	NE
SENSITIZATION:	DOES NOT MEET WHMIS CRITERIA..
CARCINOGENICITY:	DOES NOT MEET WHMIS CRITERIA.
TERATOGENICITY:	DOES NOT MEET WHMIS CRITERIA.
MUTAGENICITY:	DOES NOT MEET WHMIS CRITERIA.
REPRODUCTIVE TOXICITY:	DOES NOT MEET WHMIS CRITERIA.

PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT:	WEAR SAFETY GOGGLES, FACE SHIELD, RUBBER APRON, BOOTS AND USE IMPERVIOUS GLOVES. WHERE AIRBORNE EXPOSURE IS LIKELY, WEAR A NIOSH APPROVED RESPIRATOR EQUIPPED WITH AN ORGANIC VAPOUR CARTRIDGE.
SPECIFIC ENGINEERING CONTROLS:	LOCAL EXHAUST IS RECOMMENDED.
LEAK AND SPILL PROCEDURES:	VENTILATE THE AREA AND REMOVE ALL IGNITION SOURCES. SOAK UP WITH AN ABSORBENT MATERIAL AND PLACE IN A CLOSED CONTAINER. ADD INHIBITOR TO PREVENT POLYMERIZATION AND DISPOSE OF IMMEDIATELY
WASTE DISPOSAL:	HAZARDOUS WASTE. DO NOT ALLOW PRODUCT TO ENTER THE ENVIRONMENT. CONSULT FEDERAL OR LOCAL AUTHORITIES FOR APPROVED DISPOSAL

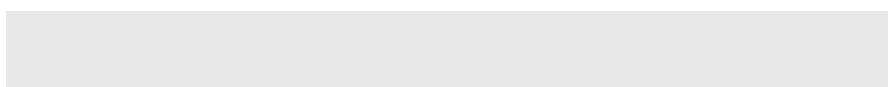
METHODS.	
HANDLING PROCEDURES AND EQUIPMENT:	KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAMES. WHEN TRANSFERRING FROM CONTAINERS, GROUND AND BOND BOTH CONTAINERS WASH BEFORE EATING, DRINKING, USING TOBACCO PRODUCTS OR REST ROOMS.
STORAGE REQUIREMENTS:	KEEP IN A CLOSED, LABELED CONTAINER IN A VENTILATED AREA. STORAGE TEMPERATURE SHOULD BE 15 TO 25 °C. THE TYPICAL SHELF-LIFE OF THIS PRODUCT IS 12 MONTHS. AVOID STORAGE UNDER AN OXYGEN-FREE ATMOSPHERE. AN AIR SPACE IS REQUIRED ABOVE THE LIQUID IN ALL CONTAINERS. THE STABILITY OF THE PRODUCT SHOULD BE CHECKED PERIODICALLY (TYPICALLY EVERY 90 DAYS FOR BULK CONTAINERS).

FIRST AID MEASURES	
EYE	FLUSH EYES WITH LARGE AMOUNT OF WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. SEEK MEDICAL ATTENTION.
SKIN	WASH SKIN WITH WATER AND SOAP. SEEK MEDICAL ATTENTION.
INGESTION	DO NOT GIVE LIQUIDS IF PERSON IS UNCONSCIOUS OR VERY DROWSY. DO NOT INDUCE VOMITING. SEEK IMMEDIATE MEDICAL ATTENTION.
INHALATION	REMOVE PERSON TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, APPLY ARTIFICIAL RESPIRATION AND ADMINISTER OXYGEN IF NECESSARY. SEEK MEDICAL ATTENTION.

PREPARATION DATE	
PREPARED BY:	TECHNICAL DEPARTMENT.
PHONE NUMBER OF PREPARER:	905-827-9841
DATE PREPARED (MM/DD/YY):	11/25/04
DATE REVISED (MM/DD/YY):	07/06/09

MINIMUM CONTACT WITH THIS AND ALL CHEMICALS IS RECOMMENDED AS A GOOD GENERAL POLICY TO FOLLOW.

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Glacial Acrylic Acid GAA		
	Specification	Typical
Assay, % min	99.00	99.5
Furfural, ppm max	—	—
Acidity, % max	—	—
Water, % max	0.20	0.10
Color, APHA	10	10
Inhibitor, ppm MEHQ	180-220	200
Refractive Index, n_D^{25}		1.4185
Specific Gravity, 25°C/15.6°C		1.045
Density, lbs/US gal		8.7
Flash Point,* °C		50 ^(Tag)
°F		122
Freezing Point, °C		13
Boiling Point, °C, 760mm		141
Viscosity, cps		1.25
Tg, °C		106
Recommended Storage Life,** years max		0.5***

*Flash Point Method: S = Setaflash
PM = Pensky-Martens Closed Cup
Tag = Tag Closed Cup

**Storage Life: Refer to MSDS for guidelines on individual monomers.

***While stable for up to one year, dimer growth in acrylic acid can interfere with some applications.