



NORSOCRYL(R) 100

Material Safety Data Sheet

Arkema Inc.

1 PRODUCT AND COMPANY IDENTIFICATION

Acrylic Monomers

Arkema Inc.
2000 Market Street
Philadelphia, PA 19103

EMERGENCY PHONE NUMBERS:

Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 767-5089 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
Customer Service	800-338-1015	8:00 to 6:00 EST

Product Name NORSOCRYL(R) 100
Product Synonym(s)

Chemical Family Methacrylate

Chemical Formula Mixture

Chemical Name Mixture

EPA Reg Num

Product Use

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical Wt. %	OSHA
Methyl methacrylate	80-62-6	80%	Y
(2-methacryloxyethyl) heteromonocycle	EPA Accession# 13855	19.5 - 20.5%	Y
Phenothiazine	92-84-2	275 - 325 ppm	Y
Monomethyl ether of hydroquinone (MEHQ)	150-76-5	225 - 275 ppm	Y

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are all on the TSCA Inventory list.

3 HAZARDS IDENTIFICATION

Emergency Overview

Colorless liquid with slight irritating odor

WARNING!

FLAMMABLE LIQUID AND VAPOR.

CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION.

MAY CAUSE ALLERGIC SKIN REACTION.

PROLONGED CONTACT MAY CAUSE SHORT-TERM LOSS OF FEELING IN THE FINGERS

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be no more than slightly toxic if swallowed, moderately irritating to eyes and slightly irritating to skin. Repeated exposure may cause an allergic skin reaction. Vapor or mist may be irritating to the eyes and respiratory tract, and may cause central nervous system effects such as headache, nausea, dizziness, impaired coordination, memory effects, and drowsiness. Long-term exposure may produce short-term loss of feeling



(sensory paresthesia) of the fingers.

4 FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention.

IF ON SKIN, immediately wash with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Destroy contaminated shoes.

IF SWALLOWED, do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

5 FIRE FIGHTING MEASURES

Fire and Explosive Properties

Auto-Ignition Temperature	430 C	
Flash Point	2 C closed cup	Flash Point Method
Flammable Limits- Upper	12.5%	
Lower	2.1%	

Extinguishing Media

Use water spray, carbon dioxide, foam or dry chemical.

Fire Fighting Instructions

Fight fire from a protected location - EXPLOSION HAZARD. Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazards

When burned, the following hazardous products of combustion can occur:
Oxides of carbon

A large amount of heat can be generated when monomers are exposed to a fire. Heated sealed containers can explode.

6 ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Extinguish or turn off all ignition sources. Ventilate the space involved. Wear appropriate personal protection equipment as indicated in Section 8 of this MSDS. Contain spill with inert materials. Construct a dike to prevent spreading. Collect with non-sparking tools to a suitable container. Prevent waterway contamination. Absorb liquid onto inert absorbent and place in DOT approved drums for disposal. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

7 HANDLING AND STORAGE**Handling**

Keep away from heat, sparks and flame.
Keep container tightly closed.
Use only with adequate ventilation.
Avoid breathing vapor.
Avoid prolonged contact with eyes, skin and clothing.
Wash thoroughly after handling.

CONTAINER HAZARDOUS WHEN EMPTY. Emptied container retains vapor and product residue. Follow labeled warnings even after container is emptied. RESIDUAL VAPORS MAY EXPLODE ON IGNITION. DO NOT CUT, DRILL GRIND OR WELD ON OR NEAR THIS CONTAINER. Improper disposal or reuse of this container may be dangerous and/or illegal.

Storage

This product should be stored in a closed container, away from direct sunlight, at ambient temperatures. Storage of this product at elevated temperatures (>30 C or >85 F) reduces the shelf-life. The typical shelf-life for this product is 12 months. An air space is required above the liquid in all containers; avoid storage under an oxygen-free atmosphere.

The stability of this product should be checked periodically; typically every 90 days for bulk containers. Materials recommended for packaging include: stainless steel, aluminum, glass, HDPE, PP or PTFE.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION**Engineering Controls**

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). Dilution ventilation acceptable, but local mechanical exhaust ventilation preferred, if practical, at sources of air contamination such as open process equipment.

Eye / Face Protection

Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment available.

Skin Protection

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear face shield and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse contaminated skin promptly. Wash contaminated clothing and clean protective equipment before reuse. Wash skin thoroughly after handling.

Respiratory Protection

Avoid breathing vapor or mist. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

**Airborne Exposure Guidelines for Ingredients**

Exposure Limit		Value
Phenothiazine		
ACGIH Skin designator	-	Y
ACGIH TWA	-	5 mg/m3
Methyl methacrylate		
ACGIH Sensitizer Designator	-	Y
ACGIH STEL	-	100 ppm (410 mg/m3)
ACGIH TWA	-	50 ppm (205 mg/m3)
OSHA TWA PEL	-	100 ppm (410 mg/m3)
Monomethyl ether of hydroquinone (MEHQ)		
ACGIH TWA	-	5 mg/m3

-Only those components with exposure limits are printed in this section.

-Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.

-ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.

-WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	Colorless liquid with slight irritating odor
pH	NA
Specific Gravity	0.990 @ 20 C
Vapor Pressure	38.6 mbar @ 20 C
Vapor Density	NE
Melting Point	NA
Freezing Point	-3 C
Boiling Point	100 C
Solubility In Water	Soluble
Viscosity	1 mPa.s @ 20 C
Molecular Weight	198
Other Physical Data	Refractive index: 1.4396 @ 25 C

10 STABILITY AND REACTIVITY**Stability**

This material is chemically stable under specified conditions of storage, shipping and/or use. See HANDLING AND STORAGE section of this MSDS for specified conditions. This material can undergo hazardous polymerization. See Hazardous Polymerization below for conditions to avoid.

Hazardous Polymerization

An uncontrolled polymerization may produce a rapid release of energy with the potential for an explosion of unvented closed containers or inadequately vented containers.

Incompatibility

This material polymerizes exothermically in the presence of heat, contamination, oxygen-free atmospheres, free radicals, peroxides, and a depletion of inhibitor.

Hazardous Decomposition Products

Oxides of carbon can be liberated at temperatures above ambient.

11 TOXICOLOGICAL INFORMATION**Toxicological Information**

Data on this material and/or its components are summarized below.

Methyl Methacrylate

Single exposure (acute) studies indicate that this material is practically non-toxic if swallowed (rat LD50 7,900-9,400 mg/kg), absorbed through skin (rabbit LD50 >5,000 mg/kg) or inhaled (rat 4-hr LC50 16.6-66.6 mg/l; 2-hr LC50 70.7 mg/l) and slightly irritating to rabbit eyes and skin.

Methyl Methacrylate

Skin allergy was observed in guinea pigs and humans following repeated exposure. Long-term repeated handling has been reported to produce short-term loss of feeling (sensory paresthesia) of the fingers. Acute effects in animals following inhalation exposure include respiratory tract irritation, labored breathing and anaesthesia. Repeated inhalation exposure resulted in nasal, respiratory tract, liver, kidney and bone marrow damage, behavioral, central and peripheral nervous system effects, and deaths at high concentrations in rats and mice. Repeated oral dosing produced behavioral/nervous system effects such as decreased locomotor activity and learning ability, increased shock-induced aggressive behavior, and changes in brain neurotransmitters in rats, while no effects on motor behavior were reported in another study conducted at higher doses for a longer period. Liver, kidney and stomach damage were also reported in rats following repeated oral exposure. Following repeated application to the skin, irritation was the primary effect observed in rats and rabbits. In long-term inhalation studies with rats and mice conducted by the National Toxicology Program (NTP), reduced survival, degenerative and inflammatory changes in olfactory epithelium and lung fibrosis were reported. Similar dose-related effects on olfactory epithelium were reported in other long-term inhalation studies with rats and hamsters. A long-term drinking water study with rats produced reduced food and water consumption and increased kidney to body weight ratio. This material produced no increased incidence of tumors in any of these studies or in a long-term feeding study in dogs. No skin tumors were observed in rats following repeated skin application. Birth defects were observed in the offspring of rats exposed by inhalation during pregnancy, but at a level that produced adverse effects on the mothers. No birth defects were noted in numerous other inhalation studies with rats and mice. Slight developmental effects were noted in the offspring of mice (slight decrease in fetal weight) and rats (delayed ossification) at concentrations producing adverse effects in the mothers. No effects were seen on the ability of male or female mice to reproduce when exposed by inhalation. No genetic changes were observed in tests using bacteria. Both positive and negative responses have been reported in tests using animals or animal cells. This material is rapidly absorbed and metabolized after oral administration. Some skin absorption may occur, in that dental technicians using this material had

11 TOXICOLOGICAL INFORMATION

measurable levels in their urine.

12 ECOLOGICAL INFORMATION**Ecotoxicological Information**

Data on this material and/or its components are summarized below.

Methyl Methacrylate

This material is practically non-toxic to *Daphnia magna* (24-hr LC50 1,760 mg/l), fathead minnow (24-96 hr LC50 159-499 mg/l), bluegill sunfish (24-96 hr LC50 232-368 mg/l), guppies (24-96 hr LC50 368 mg/l), goldfish (24-96 hr LC50 277-423 mg/l) and green algae (96-hr LC50 170 mg/l). It is slightly toxic to *Daphnia magna* (48-hr EC50 69 mg/l) and no more than slightly toxic to rainbow trout (96-hr LC50 >79 mg/l). The inhibition of cell multiplication for blue green algae is 120 mg/l.

Chemical Fate Information

Data on this material and/or its components are summarized below.

Methyl Methacrylate

This material has a very high mobility rating in soils. Using activated sludge bacteria, 88% of the material was biodegraded after 28 days in the closed bottle test. A calculated log BCF of 0.55 would indicate that little bioconcentration would be expected to occur in aquatic organisms.

13 DISPOSAL CONSIDERATIONS**Waste Disposal**

Incineration is the recommended method for disposal observing all local, state and federal regulations. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

14 TRANSPORT INFORMATION

DOT Name	Methyl methacrylate monomer, stabilized, mixture
DOT Technical Name	
DOT Hazard Class	3
UN Number	UN 1247
DOT Packing Group	PG II
RQ	1000 lbs
DOT Special Information	Primary Hazard - FLAMMABLE

15 REGULATORY INFORMATION**Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)**

Immediate (Acute) Health	Y	Fire	Y
Delayed (Chronic) Health	Y	Reactive	Y
		Sudden Release of Pressure	N



TSCA Memo for Product

The components of this product are all on the TSCA Inventory list.

Ingredient Related Regulatory Information:

SARA Reportable Quantities	CERCLA RQ	SARA TPQ
Phenothiazine	NE	
Methyl methacrylate	1000 LBS	
Monomethyl ether of hydroquinone (MEHQ)	NE	
(2-methacryloxyethyl) heteromonocycle	NE	NE

SARA Title III, Section 313

This product does contain chemical(s) which are defined as toxic chemicals under and subject to the reporting requirements of, Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. See Section 2

Methyl methacrylate

Massachusetts Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

- Methyl methacrylate
- Monomethyl ether of hydroquinone (MEHQ)
- Phenothiazine

New Jersey Right to Know

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.

- Methyl methacrylate
- Monomethyl ether of hydroquinone (MEHQ)
- Phenothiazine

Pennsylvania Environmental Hazard

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Environmental Hazard List.

- Methyl methacrylate

Pennsylvania Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.

- Methyl methacrylate
- Monomethyl ether of hydroquinone (MEHQ)
- Phenothiazine

16 OTHER INFORMATION

Revision Information

Revision Date	11 OCT 2004	Revision Number	8
Supercedes Revision Dated	28-MAR-2003		

Revision Summary

ATOFINA Chemicals, Inc. has changed its name to Arkema Inc.



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Material Safety Data Sheet

Arkema Inc.

Key

NE= Not Established NA= Not Applicable (R) = Registered Trademark

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