

SAFETY DATA SHEET

SECTION 1 – PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER: TECHNOVIT 4006 LIQUID 11 10 64 & 11 10 66
PRODUCT USE: Resin for metallographic testing

DISTRIBUTOR'S NAME: MICRO STAR 2000 INC. **EMERGENCY PHONE NUMBER:** 905-660-1754
DISTRIBUTOR'S ADDRESS: 225 Bradwick Drive, Unit 21
Concord, Ontario
L4K 1K7

SECTION 2 – COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL CHARACTERIZATION:

Description: Product based on methacrylates

Dangerous Components:

CAS: 80-62-6 EINECS: 201-297-1	methyl methacrylate	Xi, F; R 11-37/38-43	>90%
CAS: 79-41-4 EINECS: 201-41-4	methacrylic acid	C: R 21/22-35	0-5%

Additional Information: For the wording of the listed risk phrases refer to section 16.

WHMIS: Class B, Div 3
Class D, Div 2, Skin or eye irritation

SECTION 3 – HAZARDS IDENTIFICATION

Hazards Designation:

Xi Irritant
F Highly Flammable

Information pertaining to particular dangers for man and environment:

The product has to be labeled due to the calculation procedure of the "General Classification guideline for preparation of the EU" in the latest valid version.

R11 Highly flammable.
R36/37/38 Irritating to eyes, respiratory system and skin.
R43 May cause sensitization by skin contact.

Classification System:

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

SECTION 4 – FIRST AID MEASURES

INHALATION: Supply fresh air; consult doctor in case of symptoms.

SKIN CONTACT: Instantly wash with water and soap and rinse thoroughly.

EYE CONTACT: Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.

INGESTION: Do not induce vomiting; instantly call for medical help.

SECTION 5 – FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING AGENTS: CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam. CO2, sand, extinguisher powder. Do not use water.

FOR SAFETY REASONS UNSUITABLE EXTINGUISHING AGENTS: Water with a full water jet.

**SPECEAL HAZARD CAUSED BY THE MATERIAL,
ITS PRODUCTS OF COMBUSTION OR FLUE GASES:** Formation of toxic gases is possible during heating or in case of fire.

PROTECTIVE EQUIPMENT: No special measures required

SECTION 6 – ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTION: Wear protective equipment.

ENVIRONMENTAL PRECAUTIONS: Prevent material from reaching sewage systems and/or ground water.

CLEANING METHODS: Absorb with liquid-binding material (diatomite, universal binders, for small amounts tissues). Do not flush with water or aqueous cleansing agents, send for recovery or disposable in suitable containers.

ADDITIONAL INFORMATION: See section 8 for information on personal protection equipment.
See section 13 for information on disposal.

SECTION 7 – HANDLING AND STORAGE

HANDLING: Keep containers tightly sealed
Ensure good ventilation/exhaustion at the workplace.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier then air).

EXPLOSION AND FIRES: Keep ignition sources away – Do not smoke.
Protect against electrostatic charges.

STORAGE: Store in cool location, dry conditions in well-sealed containers.
Store cool (not above 25 C)

SECTION 8 – ENGINEERING CONTROLS / PERSONAL PROTECTION

Components with critical values that require monitoring at the workplace:

80-62-6 methyl methacrylate

OES	Short-term value: 416 mg/m3, 100 ppm
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	Long-term value: 208 mg/m3, 50 ppm
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79-41-4 methacrylic acid

OES	Short-term value: 143 mg/m3, 40 ppm
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	Long-term value: 72 mg/m3, 20 ppm
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**PERSONAL PROTECTIVE EQUIPMENT
GENERAL PROTECTIVE AND HYGIENIC MEASURES**

Keep away from beverages and food.
Instantly remove away soiled and impregnated garments.
Wash hands during break and at the end of the work.
Do not inhale gases/ fumes / aerosols.
Avoid contact with eyes and skin.

INHALATION PROTECTION:

Not necessary with efficient local exhaust Use protective breathing mask (filterA).

SKIN CONTACT:

If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization.
Solvent resistant gloves.
The glove material has to be impermeable and resistant to the product / the substance / the preparation.
Selection of the glove material on consideration of the penetrating times, rates of diffusion and degradation.

MATERIAL OF GLOVES:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is preparation of several substances the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

PENETRATION TIME OF GLOVE MATERIAL:

The exact break through time has not been determined by the manufacturer of the protective gloves and has to be observed.

FOR THE PERMANENT CONTACT IN WORK AREAS WITHOUT HEIGHTENED RISK OF INJURY (E.G. LABORATORY) GLOVES MADE OF THE FOLLOWING MATERIAL ARE SUITABLE: PVA gloves

FOR THE PERMANENT CONTACT OF MAXIMUM OF 15 GLOVES MADE OF THE FOLLOWING MATERIALS ARE SUITABLE: Fluorocarbon rubber (Viton)
Chloroprene rubber, CR
Butyl rubber, BR
Nitrile rubber, NBR

EYE PROTECTION:

Protective goggles are recommended.

BODY PROTECTION:

Light weight protective clothing.

SECTION 9- PHYSICAL AND CHEMICAL PROPERTIES

General Information		
	Form	Fluid
	Color	Colorless
	Smell	Characteristic
Change in condition		
	Melting point/Melting range	Not determined
	Boiling point/Boiling range	100 °C
	Flash point	10 °C
	Ignition temperature	430° C
	Self inflammability	Product is not self-igniting
	Danger of Explosion	Product is not explosive. However, formation of explosive air/vapor mixtures is possible
Critical values for explosion		
	Lower	2.1 Vol %
	Upper	12.5 Vol %
	Steam pressure at 20 C	47 hPa
	Density at 20 C	0.95 g/cm3
Solubility in /Miscibility with		
	Water	Not miscible or difficult to mix
Viscosity		
	Dynamic at 20 C	1mPas
Solvent content		
	Organic solvents	91.8 %
	Water	0.2 %

SECTION 10- STABILITY AND REACTIVITY

CONDITIONS TO BE AVOIDED:	No decomposition if used and stored according to specifications.
DANGEROUS REACTIONS:	No dangerous reaction known
HAZARDOUS DECOMPOSITION PRODUCTS:	None
ADDITIONAL INFORMATION:	If stored longer than recommended and/or above recommended temperature, product may polymerize generating heat.

SECTION 11 –TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:	
PRIMARY IRRITANT EFFECTS	
SKIN:	Irritant for skin and mucous membranes
EYE:	Irritant effect.
SENSITIZATION:	Sensitization possible by skin contact.
ADDITIONAL INFORMATION:	The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version: Irritant

SECTION 12 –ECOLOGICAL INFORMATION

GENERAL: Water hazard class 1 (calculated according to VwVwS) slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

SECTION 13- DISPOSAL CONSIDERATIONS

ENVIRONMENTAL TOXICITY DATA:	See regulatory information below.
WASTE DISPOSAL METHOD:	In accordance with all local, state, and federal regulations.
CONTAINER DISPOSAL:	In accordance with all local, state, and federal regulations.

SECTION 14-TRANSPORTATION INFORMATION

LAND TRANSPORT:	
ADR/RID-GGVS/E:	Class 3 (f1)
Kemler Number:	339
UN-Number:	1247
Packaging group:	II
Label:	3
Designation of goods	1247 METHYL METHACRYLATE MONOMER, STABILIZED, solution

AIR TRANSPORT ICAO-TI and IATA-DGR:	
ICAO/IATA Class:	3
UN/ID Number	1247
Label	3
Packaging group	II
Correct technical name:	METHYL METHACRYLATE MONOMER, STABILIZED, solution

SECTION 15-REGULATORY INFORMATION

DESIGNATION ACCORDING TO EC GUIDELINES: The product has been classified and labeled in accordance with EC Directives / Ordinance on Hazardous Material (GefStoffV)

CODE LETTER AND HAZARAD DESIGNATION OF PRODUCT: Xi Irritant
F Highly flammable

HAZARD-DETERMINING COMPONENTS OF LABELING: methyl methacrylate

RISK PHRASES:

11 Highly flammable
36/37/38 Irritating to eyes, respiratory system and skin.
43 May cause sensitization by skin contact.

SAFETY PHRASES:

9 Keep container in a well-ventilated place
16 Keep away from sources of ignition - No smoking
23 Do not breath fumes.
24 Avoid contact with skin.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37 Wear suitable gloves.

NATIONAL REGULATIONS**Technical instructions (air):**

Class	Share in %
Water	<1
NK	>90

WATER HAZARD CLASS:

Water hazard class 1 (calculation according to VwVwS): slightly hazardous for water

SECTION 16 – OTHER INFORMATION

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

RELEVANT R-PHRASES

10 Highly flammable
21/22 Harmful in contact with skin and if swallowed
35 Causes severe burn.
37/38 Irritating to respiratory system and skin.
43 May cause sensitization by skin contact.

SECTION 17 – PREPARATION OF SAFETY DATA SHEET

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