SAFETY DATA SHEET

SECTION 1 – PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER: MICROTEC L20 LIQUID 11 10 16 & 11 10 46
PRODUCT USE: Resin for Metallogrpahic Testing

DISTRIBUTOR'S NAME: MICRO STAR 2000 INC.
DISTRIBUTOR'S ADDRESS: 225 Bradwick Drive, Unit 21
Concord, Ontario
L4K 1K7

EMERGENCY PHONE NUMBER: 905-660-1754

SECTION 2 – COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL CHARACTERIZATION:
Methacrylic acid methyl ester or methyl methacrylate, containing activator

Description: Product based on methacrylates

Hazardous ingredients:

Methyl Methacrylate	
Concentration	60-100%
CAS number	80-62-6
Hazard symbols	Xi F
R-phrases	11, 36/37/38, 43

N,N-dimethyl-p-toluidine	
Concentration	1-5%
CAS number	99-97-8
Hazard symbols	T
R-phrases	23/24/25,33

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

SECTION 3 – HAZARDS IDENTIFICATION

HAZARDS DESIGNATION;

Xn	Harmful
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.
R20	Harmful by inhalation.
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

GENERAL INFORMATION: Remove soiled, soaked clothing immediately. Medical treatment is necessary, if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapors.

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

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

SECTION 5 – FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING AGENTS: water spray jet, foam, dry powder, carbon dioxide

FOR SAFETY REASONS UNSUITABLE EXTINGUISHING AGENTS: Full water jet

PROTECTIVE EQUIPMENT: Use self-contained breathing apparatus.
Wear full protective suit.

FIRE AND EXPLOSTION: Keep away from sources of ignition- no smoking
Take precautionary measures against static discharges.
In the event of fire, cool the endangered container with water.
When heated above the flash point and/or during spraying (atomizing), ignitable mixture may form in air.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTION: Wear protective equipment. Keep unprotected persons away.

ENVIRONMENTAL PRECAUITIONS: Prevent material from reaching sewage system and/or ground water.

CLEANING METHODS: Absorb with liquid-binding material (diatomite, universal binders, for small amounts tissues) Dispose of contaminated material as waste according to item 13. Do not flush with water or aqueous cleansing agents.

ADDITIONAL INFORMATION: No dangerous materials are released.

SECTION 7 – HANDLING AND STORAGE

HANDLING: Keep containers tightly sealed.
Ensure good ventilation / exhaustion at the workplace.

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

STORAGE: Keep only in the original container at a temperature not exceeding 30C.
Full the container by approximately 90% only as oxygen (air) supply is sufficient to ensure stability.
Keep out of light.

SECTION 8 – ENGINEERING CONTROLS / PERSONAL PROTECTION

Components or products of decomposition according to point 10, with limit values related to the place of work which require monitoring.

TLV (long term)- value for		
CAS number		80-26-6
Methyl methacrylate	**410 mg/m3**	100ml/m3

PRECAUTIONARY MEASURES:
Take care for adequate ventilation.
Use personal protective clothing
Keep away sources of ignition

PERSONAL PROTECTIVE EQUIPMENT
GENERAL PROTECTIVE MEASURES:
Do not inhale vapors.
Avoid contact with eyes and skin

HYGIENE MEASURES:
Store work clothing separately ,
Remove soiled or soaked clothing immediately.
Follow the usual good standards of occupational hygiene.

RESPIRATORY PROTECTION:
Breathing apparatus in case of high concentration.
Short term, filter appliance, filter A

PROTECTION OF HANDS: Rubber gloves

EYE PROTECTION: Protective goggles are recommended

BODY PROTECTION: Light weight protective clothing.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:
Form: liquid
Color: colorless to slightly yellowish
Odour: ester-like

DATA RELAVANT TO SAFETY:

Change in physical state		
Melting temperature:		-48 C
Initial boiling point:	approx.	100C
	at	1013 hPa
Flash Point:		
Method DIN 51755 (Methyl methacrylate)		10 C
Ignition temperature:		
Method DIN 51794 (Methyl methacylate)		430 C
Lower explosion limit:		
(Methyl methacrylate)		2.1%vol
Upper explosion limit:		12.5%vol
Vapour pressure:		<40 hPa
	at	20 C
Density		0.95g/cm 3
	at	20C
Relative vapour density-related to air:		>1
	at	20C
Solubility in water	approx.	10g/l
	at	20 C

Solubility/qualitative
in eg. esters, ketones and chlorinated hydrocarbons:
readyily souble

pH-value	not applicable	
Visconsity dynamic	approx.	2mPas
	at	23 C
Method Brookfield		

SECTION 10 – TOXICOLOGICAL INFORMATION

Acute oral toxicity (LD50)

>5000 mg/kg

Species rat
Method OECD 401
Source Literature
The data mentioned above refer to the component methyl methacrylate.

Acute oral toxicity (LD50)

996 MG/KG

Species rat
The data mentioned above refer to the component N, N-dimethyl-p-toluidine

Acute inhalational toxicity (LC50)

7093 ppm

Length of exposure 4 h
Species rat
Source Literature
The data mentioned above refer to the component methyl methacrylate

Acute dermal toxicity (LD50)

>5000 mg/kg

Species rabbit
Source Literature
The data mentioned above refer to the component methyl methacrylate.

Skin irritating
Not irritating
Length of exposure 24h
Species rabbit
Method Occlusive, FDA Draize
The data mentioned above refer to the component methyl methacrylate.

Irritant effect on the eyes
Not irritating
Species rabbit eye
Method Draize
The data mentioned above refer to the component methyl methacrylate.

Sensitization
In sensitization tests on guinea pigs with and without adjuvant, both positive and negative results were found.
Source Literature

In humans various types of allergic reactions have been observed (symptoms: headache, eye irritations, skin affections).
The data mentioned above refers to the component methyl methacrylate.

Mutagenicity
Non-mutafenic
Dos./concentration 10000 ug/plate
Metabolic activatation
+/-
Species/Test system
Salmonella typhimurium
Method Ames-test
Source Literature

Mutagenic
Metabolic activation
+/-
Species/test system mouse lymphoma L 5178 Y TK +/- cells
Method mouse lymphoma test
Source Literature

Slight increase in SCEs
Metabolic activation
+/-
Species/test system
CHO cells
Method SCE test
Source Literature

No increase in the SCE rate up to cytotoxic concentrations.
Species/test system
human lymphocytes
Method SCE test
Source Literature

No increase in the number of micronuclei.
Application method oral
Dos./concentration 4250 mg/kg
Application interval 1 dose
Species/test system
mouse
Method Micro-nucleus test/ OECD 474
Source Literature

No increase in the number of micronuclei
Application method oral
Dos./concentration 1130 mg/kg
Application interval 4 doses
Species/test system
mouse
Method Micro-nucleus test/OECD 474
Source Literature

Non-mutagenic
Application method inhalational
Application interval 6 h/d
Application period
Species/Test System 5 d
CD-1 mouse (male)
Method Dominant lethal test
Source Literature

The data mentioned above refer to the component methyl methacrylate.

Teratogenicity
No indications of toxic effects were observed in reproduction studies in animals.
Application method inhalatinal
Dosage 2028 ppm
Application period 6 to 15 d gest.
Species rat
Method OECD 414
Source Literature

The data mentioned above refer to the component methyl methacrylate.

Carcinogenicity
Non-carcinogenic in inhalation and feeding studies carried out on rats, mice, and dogs.
Source Literature

The data mentined above refer to the component methyl methacrylate.

Chronic toxicity
Application method inhalational
Dosage 250 to 1000 ppm
Application interval 6 h/d, 5 d/w
Application period 2 a
Species rat
Source Literature
Findings: Damage to the mucous membranes in nose, throat and lungs.
Degeneration of the olfactory epithelium.
The data mentioned above refer to the component methyl methacrylate

Chronic toxicity
Application method inhalational
Dosage 500 to 100 ppm
Application interval 6 h/d, 5 d/w
Application period 2 a
Species mouse
Source Literature
Findings: Damage to the mucous membranes in nose, throat and lungs.l
Degeneration of the olfactory epithelium.
The data mentioned above refer to the component methyl methactylate.

Further information on toxicology Methaemoglabinaemia possible after skin contact. Symptoms of poisoning may not occur for many hours. Liver damage is possible. The data mentioned above refer to the component N,N-dimethyl-p-toluidine. There are no toxicological data available for the product as such. Carefully avoid contact with skin and eye as well as inhalation of product vapors.

SECTION 11 – ECOLOGICAL INFORMATION

INFORMATION ON ELIMINATION (persistence and degradability)

Blodegraduability

Duration of test 30.7%
Method OECD 301 C 28 d
>95%
Method test according to Zahn/Wellens
Source Literature

The product is not readily biodegradable to OECD criteria but is inherently biodegradable.

Exotoxicological effect

Fish toxicity (LC50)
>79 mg/l
Length of exposure 96 h
Species oncorhynchus mykiss, rainbow trout
Method OECD 203/ ISO 7346/ EEC 84/449/V,C1
Source Literature
Fish toxicity (LC50)
40 mg/l
Length of exposure 96 h
Species oncorhynchus mykiss, rainbow trout
Method OECD 203/ ISO/ 7346/ EEC 84/449/V,C1
Source Literature
Daphnia toxicity (EC50)
69 mg/l

Length of exposure 48 h
Species daphania magna
Method OECD 202/ ISO 6341/ EEC 84/ 449/ V, CD
Source Literature

Algae toxicity (EC3)	
	37 mg/l
Length of exposure	8 d
Species scenedesmus quadricauda	
Method DIN 38412 part 9	
Source Literature	
Algae toxicity	
	170 mg/l
Length of exposure	4 d
Species selenastrum capricornutum	
Method OECD 201/ ISO 8692/ EEC 88/ 302/V, C	
Source Literature	
Bacteria toxicity (ECO)	
	100 mg/l
Species pseudomonas putida	

GENERAL NOTES: Water hazard class 2 (calculated according to VwVwS): hazardous for water. Do not allow product to reach ground water, water bodies or sewage system. Danger to drinking water if even small quantities leak into soil.

SECTION 12 – 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 13-TRANSPORTATION INFORMATION

LAND TRANSPORT :

ADR/RID-GGVS/E Class:	3 (F1) Flammable liquids.
Kemler Numbers	33
UN-Number:	1866
Packaging Group	11
Label	3
Designation of goods	1866 RESIN SOLUTION, special provision 64OD

AIR TRANSPORT ICAO-TI and IATA-DGR

ICAO/IATA Class	3
UN/ID Number	1866
Label	3
Packaging group	11
Correct technical name	RESIN SOLUTION

SECTION 14 – REGULATORY INFORMATION

Labelling in accordance withGefStoffv/EC
requires labeling

Hazardous components for labeling
contains N, N-Dimethyl-p-toluidine

Hazard symbols
Xn Harmful
F Highly flammable

R -phrases

11	Highly flammable
20/21/22	Harmful by inhalation, in contact with skin and if swallowed
36/37/38	Irritating to eyes, respiratory system and skin.
43	May cause sensitization by skin cotnace.

S -phrases

9	Keep container in well ventilated place.
16	Keep away from sources of ignition, No smoking
29	Do not empty into drains.
33	Take precautionary measures against static discharges.

SECTION 15 – OTHER INFORMATION

The product is normally supplied in a stabilized form.
If the permissible storage period and /or storage temperature is noticeably exceeded, the product may polymerize with heat evolotion.

The detail are based on the current level of expertise which we have achieved, they are intended as description of the products safety requirements and are not to be seen as guarantee of certain product features.

SECTION 16 – PREPARATION OF SAFETY DATA SHEET

PREPARED BY: R. Dickertmann PHONE NUMBER: 905-660-1754 REVISED: September 1, 2025