

## SAFETY DATA SHEET

according to EC directive 91/155/EEC

Print Date: 27.04.2007

Revision Date : 27.07.2006

Version : 2.0

Trade name: **MAPRENAL MF 927/70IB**

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

#### Product information

Trade name : MAPRENAL MF 927/70IB  
Company : **INEOS Melamines GmbH**  
Alt Fechenheim 34  
60386 Frankfurt am Main  
Germany  
Telephone : +49 (0) 69 4109 2319  
Telefax : +49 (0) 69 4109 2628  
E-mail address : sdb-registration@ineosmelamines.com  
Contact person : Dr. Johann Wonner  
Emergency telephone number : +49 (0) 6132 84463

#### Use

Specific use(s) : Binding agent

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

#### Chemical nature

iso-butyl/methylated melamine formaldehyde resin

#### Hazardous components

Chemical Name	CAS-No.	EC-No.	Classification	Concentration [%]
2-methylpropan-1-ol; iso-butanol	78-83-1	201-148-0	R10 Xi; R37/38 - R41 R67	25 - < 35
methanol	67-56-1	200-659-6	F; R11 T; R23/24/25 - R39/23/24/25	2 - < 3
butan-1-ol; n-butanol	71-36-3	200-751-6	R10 Xn; R22 Xi; R37/38 - R41 R67	1 - < 1,5
Formaldehyde	50-00-0	200-001-8	R40; Carc.Cat.3 T; R23/24/25 C; R34 R43	0,2 - < 0,5

## SAFETY DATA SHEET

according to EC directive 91/155/EEC

Print Date: 27.04.2007

Revision Date : 27.07.2006

Version : 2.0

Trade name: **MAPRENAL MF 927/70IB**

### 3. HAZARDS IDENTIFICATION

#### Risk advice to man and the environment



<u>Symbol(s)</u>	:	Xi	Irritant
<u>R-phrases(s)</u>	:	R10 R37 R43 R67	Flammable. Irritating to respiratory system. May cause sensitization by skin contact. Vapours may cause drowsiness and dizziness.

### 4. FIRST AID MEASURES

<u>General advice</u>	:	Remove from exposure, lie down. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person. Take off all contaminated clothing immediately. Treat symptomatically.
<u>Inhalation</u>	:	Remove to fresh air. Keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration. If symptoms persist, call a physician.
<u>Skin contact</u>	:	Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.
<u>Eye contact</u>	:	Remove contact lenses. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
<u>Ingestion</u>	:	If swallowed, seek medical advice immediately and show this container or label. If a person vomits when lying on his back, place him in the recovery position. Do NOT induce vomiting.

#### Notes to physician

<u>Symptoms</u>	:	headache Drowsiness Daze
-----------------	---	--------------------------------

## SAFETY DATA SHEET

according to EC directive 91/155/EEC

Print Date: 27.04.2007

Revision Date : 27.07.2006

Version : 2.0

Trade name: **MAPRENAL MF 927/70IB**

### 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray  
Dry chemical  
Foam  
Carbon dioxide (CO<sub>2</sub>)
- Extinguishing media which must not be used for safety reasons : High volume water jet
- Specific hazards during fire fighting : Fire will produce dense black smoke containing hazardous combustion products (see heading 10).  
Do not use a solid water stream as it may scatter and spread fire.
- Special protective equipment for fire-fighters : Please wear suitable respiratory protection equipment.
- Further information : Standard procedure for chemical fires.  
Exposure to decomposition products may be a hazard to health.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Ventilate the area.  
Remove all sources of ignition.  
Avoid inhalation of vapour or mist.  
Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Should not be released into the environment.  
Avoid subsoil penetration.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up : Use mechanical handling equipment.  
Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.
- Additional advice : Treat recovered material as described in the section "Disposal considerations".

## SAFETY DATA SHEET

according to EC directive 91/155/EEC

Print Date: 27.04.2007

Revision Date : 27.07.2006

Version : 2.0

Trade name: **MAPRENAL MF 927/70IB**

### 7. HANDLING AND STORAGE

#### Handling

- Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.  
Avoid contact with skin and eyes.  
Do not breathe vapours or spray mist.  
Take precautionary measures against static discharges.  
Smoking, eating and drinking should be prohibited in the application area.  
Formaldehyde can be released during the processing.  
For personal protection see section 8.
- Advice on protection against fire and explosion : Vapours are heavier than air and may spread along floors.  
Vapours may form explosive mixture with air.  
Keep away from heat and sources of ignition.  
Do not smoke.  
Electrical equipment should be protected to the appropriate standard.  
Preparation may charge electrostatically: always use earthing leads when transferring from one container to another.  
Normal measures for preventive fire protection.
- Dust explosion class : not applicable

#### Storage

- Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place.  
Store in original container.  
Keep away from heat.  
No smoking.  
Keep in an area equipped with solvent resistant flooring.
- Advice on common storage : Keep away from oxidising agents and strongly acid or alkaline materials.  
Keep away from food, drink and animal feeding stuffs.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Control parameters	Note	Update	Basis
methanol	67-56-1	260 mg/m3 200 ppm		05 2003	EU ELV

#### Engineering measures

- General advice : Provide adequate ventilation.

## SAFETY DATA SHEET

according to EC directive 91/155/EEC

Print Date: 27.04.2007

Revision Date : 27.07.2006

Version : 2.0

Trade name: **MAPRENAL MF 927/70IB**

### **Personal protective equipment**

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.

Hand protection

Material : Fluorinated rubber  
Nitrile rubber  
Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work.  
For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.

Eye protection : Tightly fitting safety goggles

Skin and body protection : impervious clothing

Hygiene measures : Preventive skin protection (protective ointment for the skin)  
When using, do not eat, drink or smoke.  
Avoid contact with skin, eyes and clothing.  
Wash hands before breaks and at the end of workday.  
Wash contaminated clothing before re-use.  
Handle in accordance with good industrial hygiene and safety practice.

### **9. PHYSICAL AND CHEMICAL PROPERTIES**

#### **Appearance**

Form : liquid

Colour : colourless

Odour : alcoholic

#### **Safety data**

Flow time : 110 - 215 s  
at 20 °C  
Average : 6 mm  
Method: DIN 53211

Solidification / Setting point : ca.-6 °C

Boiling point/range : >= 82 °C

Flash point : 28 °C  
Method: DIN 53213

## SAFETY DATA SHEET

according to EC directive 91/155/EEC

Print Date: 27.04.2007

Revision Date : 27.07.2006

Version : 2.0

Trade name: **MAPRENAL MF 927/70IB**

<u>Ignition temperature</u>	: 450 °C Method: DIN 51794
<u>Vapour pressure</u>	: 32 hPa at 20 °C
<u>Vapour pressure</u>	: 130 hPa at 50 °C
<u>Density</u>	: ca.1,05 g/cm <sup>3</sup> at 20 °C Method: DIN 12791
<u>Water solubility</u>	: at 20 °C immiscible
<u>Viscosity, dynamic</u>	: 1.100 - 3.900 mPa.s at 23 °C Method: DIN 53177

### 10. STABILITY AND REACTIVITY

<u>Conditions to avoid</u>	: Keep away from heat and sources of ignition.
<u>Materials to avoid</u>	: Strong acids and strong bases Oxidizing agents
<u>Hazardous decomposition products</u>	: Carbon dioxide (CO <sub>2</sub> ), carbon monoxide (CO), oxides of nitrogen (NO <sub>x</sub> ), dense black smoke. ammonia Formaldehyde Alcohols
<u>Thermal decomposition</u>	: Heating can release hazardous gases.
<u>Hazardous reactions</u>	: General Information: Vapours may form explosive mixture with air.

### 11. TOXICOLOGICAL INFORMATION

<u>Acute oral toxicity</u>	: LD50 rat Dose: > 2.000 mg/kg Method: OECD Test Guideline 401
----------------------------	--

## SAFETY DATA SHEET

according to EC directive 91/155/EEC

Print Date: 27.04.2007

Revision Date : 27.07.2006

Version : 2.0

Trade name: **MAPRENAL MF 927/70IB**

<u>Skin irritation</u>	:	rabbit Classification: No skin irritation Method: OECD Test Guideline 404
<u>Eye irritation</u>	:	rabbit Classification: No eye irritation Method: OECD Test Guideline 405
<u>Sensitization</u>	:	May cause sensitization by skin contact.
<u>Further information</u>	:	The International Agency for Research on Cancer (IARC) has classified formaldehyde as a Group 1 (known) human carcinogen based on epidemiological evidence linking formaldehyde exposure to occurrence of nasopharyngeal cancer. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Liver and kidney injuries may occur. The product is classified and labelled in accordance with Directive 1999/45/EC.

### Components:

2-methylpropan-1-ol; iso-butanol	78-83-1	<u>Acute oral toxicity</u> : LD50 rat Dose: > 2.830 mg/kg  <u>Acute dermal toxicity</u> : LD50 rat Dose: > 2.000 mg/kg  <u>Acute inhalation toxicity</u> : LC50 rat Dose: > 24 mg/l Exposure time: 4 h  <u>Skin irritation</u> : Classification: Irritating to skin. Result: Skin irritation  <u>Eye irritation</u> : Classification: Irritating to eyes. Result: Eye irritation
methanol	67-56-1	<u>Acute oral toxicity</u> : LD50 rat Dose: 5.628 mg/kg  <u>Acute inhalation toxicity</u> : LC50 rat Dose: 85 mg/l Exposure time: 4 h  <u>Skin irritation</u> : Result: Mild skin irritation  <u>Eye irritation</u> : Classification: Irritating to eyes. Result: Mild eye irritation
butan-1-ol; n-butanol	71-36-3	<u>Acute oral toxicity</u> : LD50 rat Dose: 790 mg/kg  <u>Acute dermal toxicity</u> : LD50 rabbit

## SAFETY DATA SHEET

according to EC directive 91/155/EEC

Print Date: 27.04.2007

Revision Date : 27.07.2006

Version : 2.0

Trade name: **MAPRENAL MF 927/70IB**

Dose: 3.400 mg/kg

Acute inhalation toxicity: LC50 rat

Dose: > 18 mg/l

Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.

Result: Skin irritation

Eye irritation: Classification: Irritating to eyes.

Result: Risk of serious damage to eyes.

Formaldehyde

50-00-0

Acute oral toxicity: LD50 rat

Dose: 100 mg/kg

Acute dermal toxicity: LD50 rabbit

Dose: 270 mg/kg

Acute inhalation toxicity: LC50 rat

Dose: 250 - 478 mg/l

Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.

Result: Skin irritation

Eye irritation: Classification: Irritating to eyes.

Result: Risk of serious damage to eyes.

Carcinogenicity: Animal experiments showed a statistically significant number of tumours.

Sensitization: May cause sensitization by skin contact.

## 12. ECOLOGICAL INFORMATION

### Elimination information (persistence and degradability)

Biodegradability : 20 - 60 %  
Method: OECD Test Guideline 301

### Ecotoxicity effects

Toxicity to fish : LC50  
Species: Leuciscus idus (Golden orfe)  
Dose: > 500 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to bacteria : Dose: > 1.000 mg/l  
Method: fermentation tube test

### Further information on ecology

Dissolved organic carbon : 122 mg/l  
(DOC)  
Chemical Oxygen Demand : 290 mg/l



## SAFETY DATA SHEET

according to EC directive 91/155/EEC

Print Date: 27.04.2007

Revision Date : 27.07.2006

Version : 2.0

Trade name: **MAPRENAL MF 927/70IB**

### (COD)

Adsorbed organic bound halogens (AOX) : not included

Other ecotoxicological advice : The product should not be allowed to enter drains, water courses or the soil.

### Components:

2-methylpropan-1-ol; iso-butanol 78-83-1

### Toxicity to fish:

LC50

Species: Pimephales promelas (fathead minnow)

Dose: 1.430 mg/l

Exposure time: 96 h

### Acute and prolonged toxicity for aquatic invertebrates:

EC50

Species: Daphnia magna (Water flea)

Dose: 1.439 mg/l

Exposure time: 48 h

methanol 67-56-1

### Acute and prolonged toxicity for aquatic invertebrates:

EC50

Species: Daphnia magna (Water flea)

Dose: > 10.000 mg/l

Exposure time: 48 h

## **13. DISPOSAL CONSIDERATIONS**

Advice on disposal and packaging : Disposal:  
Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. In accordance with local and national regulations.

Disposal of uncleaned packaging : Dispose of as unused product.  
Do not burn, or use a cutting torch on, the empty drum.  
Vapours may form explosive mixture with air.

## SAFETY DATA SHEET

according to EC directive 91/155/EEC

Print Date: 27.04.2007

Revision Date : 27.07.2006

Version : 2.0

Trade name: **MAPRENAL MF 927/70IB**

### 14. TRANSPORT INFORMATION

#### Land transport

##### ▪ ADR / GGVS:

Class: 3  
Packaging group: III  
Classification Code: F1  
Risk No.: 30  
ADR/RID-Labels: 3  
UN-No.: 1866  
Description of the goods: RESIN SOLUTION  
Regulation: Special Provision 640E, Not a material of class 3 in accordance with paragraph 2.2.3.1.5 of the ADR/RID

##### ▪ RID / GGVE:

Class: 3  
Packaging group: III  
Classification Code: F1  
Risk No.: 30  
ADR/RID-Labels: 3  
UN-No.: 1866  
Description of the goods: RESIN SOLUTION  
Regulation: Special Provision 640E, Not a material of class 3 in accordance with paragraph 2.2.3.1.5 of the ADR/RID

#### Sea transport

##### ▪ IMDG:

Class: 3  
Packaging group: III  
IMDG-Labels: 3  
UN-No.: 1866  
EmS: F-E S-E  
Marine pollutant: no  
Proper technical name: RESIN SOLUTION

Regulation: Transport in accordance with paragraph 2.3.2.5 of the IMDG Code

#### Air transport

##### ▪ ICAO/IATA:

Class: 3  
Packaging group: III  
ICAO-Labels: 3  
UN-No.: 1866  
Proper technical name: Resin solution

## SAFETY DATA SHEET

according to EC directive 91/155/EEC

Print Date: 27.04.2007

Revision Date : 27.07.2006

Version : 2.0

Trade name: **MAPRENAL MF 927/70IB**

### 15. REGULATORY INFORMATION

#### Labelling according to EC Directives

Hazardous components which must be listed on the label:

- 50-00-0 Formaldehyde

Symbol(s) : Xi Irritant



R-phrase(s) : R10 Flammable.  
R37 Irritating to respiratory system.  
R43 May cause sensitization by skin contact.  
R67 Vapours may cause drowsiness and dizziness.

S-phrase(s) : S 9 Keep container in a well-ventilated place.  
S24 Avoid contact with skin.  
S43 In case of fire, use sand, dry chemical or alcohol-resistant foam.  
S60 This material and/or its container must be disposed of as hazardous waste.

Further information : The product is classified in accordance with Annex VI to Directive 67/548/EEC.

VOC: : Directive 1999/13/EC  
29,6 %  
Volatile CMR compounds [%]: 0 %  
Volatile halogenated compounds / R40 [%]: 0 %  
VOC content less water: 311,78 g/l

## SAFETY DATA SHEET

according to EC directive 91/155/EEC

Print Date: 27.04.2007

Revision Date : 27.07.2006

Version : 2.0

Trade name: **MAPRENAL MF 927/70IB**

### National legislation

### Notification status

List	Status
KECI (KR)	y (positive listing)
INV (CN)	y (positive listing)
AICS	y (positive listing)
PICCS (PH)	y (positive listing)
TSCA	y (positive listing)
DSL	y (positive listing)
EINECS	y (positive listing)
ENCS (JP)	y (positive listing)

The polymer contained within this product is exempt from listing in the European Inventory (EINECS). The monomers used to manufacture this polymer are listed as required, as are all other components of this product.

## 16. OTHER INFORMATION

### R-phrases corresponding to the number shown in section 2 :

R10	Flammable.
R11	Highly flammable.
R22	Harmful if swallowed.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R34	Causes burns.
R37/38	Irritating to respiratory system and skin.
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R40	Limited evidence of a carcinogenic effect.
R41	Risk of serious damage to eyes.
R43	May cause sensitization by skin contact.
R67	Vapours may cause drowsiness and dizziness.

### Further information

INEOS Melamines GmbH or any of its affiliated companies (hereinafter "INEOS Melamines") decline any liability with respect to the use made by any third party of the information contained herein. The information contained herein represents INEOS Melamines best knowledge thereon without constituting any express or implied guarantee or warranty of any kind (including, but not limited to, regarding accuracy, completeness or relevance of the data set out herein). The information relating to the use of the product is given for information purposes only. No guarantee or warranty is provided that the product is adapted to the client's specific use. The client should perform its own tests to determine the suitability for a particular purpose. The final choice of use of a product remains the sole responsibility of the client.