



# MATERIAL SAFETY DATA SHEET

PRODUCT NUMBER: 11 10 29

## SECTION 1 PRODUCT IDENTIFICATION AND MANUFACTURE

### 1.1 Product identifier

PRODUCT: Vari-Set 10/20 Liquid  
Product group: Liquid component

### 1.2 Recommended use of the chemical and restrictions on use

No further relevant information available.

- **Application of the substance / the mixture** investment resin

### 1.3 Details of the supplier of the safety data sheet

SUPPLIER: METPREP LTD.  
Unit 1, Falkland Close  
Charter Avenue  
COVENTRY CV4 8AU

CONTACT: sales@metprep.co.uk

### 1.4 Emergency telephone number

TELEPHONE: 024 7642 1222

## SECTION 2 SUBSTANCE HAZARD IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Repr. 1B	H360Df	May damage the unborn child. Suspected of damaging fertility.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

#### Hazard pictograms



GHS07



GHS08

**Signal word** Danger

#### Hazard-determining components of labelling:

Tetrahydrofurfuryl-2-methacrylate  
tetramethylene dimethacrylate

#### Hazard statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H412	Harmful to aquatic life with long lasting effects.

#### Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.



P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### Labelling of packages where the contents do not exceed 125 ml Hazard pictograms



GHS07

**Signal word** Danger



GHS08

**Hazard-determining components of labelling:**

Tetrahydrofurfuryl-2-methacrylate

tetramethylene dimethacrylate

**Hazard statements**

H317 May cause an allergic skin reaction.

H360 May damage fertility or the unborn child.

H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

### 3.2 Chemical characterisation: Mixtures

· **Description:** Liquid based on methacryl acid ester, containing an activator.

#### · Dangerous components:

CAS: 2455-24-5	Tetrahydrofurfuryl-2-methacrylate	50-75%
	Repr. 1B, H360Df; Skin Sens. 1, H317; Aquatic Chronic 3, H412	
CAS: 27813-02-1	methacrylic acid, monoester with propane-1,2-diol	25-50%
EINECS: 248-666-3	Skin Irrit. 2, H315; Eye Irrit. 2, H319	
CAS: 2082-81-7	tetramethylene dimethacrylate	2.5-10%
EINECS: 218-218-1	Skin Sens. 1B, H317	
CAS: 99-97-8	N,N-dimethyl-p-toluidine	
EINECS: 202-805-4	Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT RE 2, H373; Aquatic Chronic 3, H412	<2.5%
CAS: 123-31-9	1,4-dihydroxybenzene	
EINECS: 204-617-8	Muta. 2, H341; Carc. 2, H351; Eye Dam. 1, H318; Aquatic Acute 1, H400; Acute Tox. 4, H302; Skin Sens. 1, H317	<2.5%

**Additional information** For the wording of the listed hazard phrases refer to section 16.



## SECTION 4 FIRST AID MEASURES

### 4.1 Description of first aid measures

#### After inhalation

Take affected persons into fresh air and keep quiet.

In case of unconsciousness place patient stably in side position for transportation.

#### After skin contact

If skin irritation continues, consult a doctor.

Immediately wash with water and soap and rinse thoroughly.

#### After eye contact

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

#### After swallowing

Do not induce vomiting; call for medical help immediately.

### 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

### 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

## SECTION 5 FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing agents

Fire-extinguishing powder

Carbon dioxide

Foam

Water haze

#### For safety reasons unsuitable extinguishing agents

Water with full jet.

### 5.2 Special hazards arising from the substance or mixture

No further relevant information available.

### 5.3 Advice for firefighters

**Protective equipment:** Wear self-contained respiratory protective device.

#### Additional information

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Wear protective clothing.

### 6.2 Environmental precautions:

Do not allow to enter sewers/ surface or ground water.

### 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

### 6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection

## SECTION 7 HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Keep receptacles tightly sealed.

Keep away from heat and direct sunlight.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.



**Information about fire - and explosion protection:**

Fumes can combine with air to form an explosive mixture.  
Keep respiratory protective device available.

**7.2 Conditions for safe storage, including any incompatibilities**

**Storage**

**Requirements to be met by storerooms and receptacles:**

Storage between 10 °C and 25 °C.

Only fill the container up to 90 %.

**Information about storage in one common storage facility:** Store away from foodstuffs.

**Further information about storage conditions:** Keep receptacle tightly sealed.

**Storage class** Not determined

**7.3 Specific end use(s)** No further relevant information available.

**SECTION 8**

**EXPOSURE CONTROL/PERSONAL PROTECTION**

**Additional information about design of technical facilities:** No further data; see item 7.

**8.1 Control parameters**

**Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**Additional information:** The lists valid during the making were used as basis.

**8.2 Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

Pregnant women should strictly avoid inhalation or skin contact.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

**Respiratory protection:**

Not necessary if room is well-ventilated.

Use suitable respiratory protective device when high concentrations are present.

Filter A

**Protection of hands:** Solvent resistant gloves

**Material of gloves**

Butyl rubber, BR

Nitrile rubber, NBR

**Penetration time of glove material**

0,3 mm

Penetration time 60 min.

0,11 mm

Penetration time 10 min.

**Eye protection:** Tightly sealed goggles.

**Body protection:**

Protective work clothing.

(Only when handling large quantities)

**SECTION 9**

**PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

**General Information**

**Appearance:**

**Form:** Fluid

**Colour:** Colourless

**Odour:** Ester-like

**Odour threshold:** Not determined.



<b>pH-value:</b>	Not determined
<b>Change in condition</b>	
<b>Melting point/Freezing point:</b>	undetermined
<b>Initial Boiling point/Boiling range:</b>	>34 °C
<b>Flash point:</b>	91 °C
<b>Flammability (solid, gaseous)</b>	Not applicable.
<b>Decomposition temperature:</b>	Not determined.
<b>Auto-ignition temperature:</b>	Product is not selfigniting.
<b>Explosive properties:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
<b>Vapour pressure at 20 °C:</b>	0.1 hPa
<b>Density at 20 °C:</b>	1.03448 g/cm <sup>3</sup>
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Not miscible or difficult to mix
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>dynamic:</b>	Not determined
<b>kinematic:</b>	Not determined
<b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>9.2 Other information</b>	No further relevant information av

## SECTION 10

## STABILITY AND REACTIVITY PROPERTIES

**10.1 Reactivity** No further relevant information available.

### 10.2 Chemical stability

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions** Exothermic polymerization

**10.4 Conditions to avoid** No further relevant information available.

### 10.5 Incompatible materials:

In presence of radical formers (e. g. peroxides), deoxidizing substances, and/or heavy metal ions, polymerization with heat release is possible.  
Oxidation agent.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known

## SECTION 11

## TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

#### LD/LC50 values relevant for classification:

Tetrahydrofurylmethacrylat LD-50 oral 4000 mg/kg rat (lit.)

Hydroxypropyl methacrylate LD-50 oral 11200 mg/kg rat (lit.)

#### Primary irritant effect:

##### Skin corrosion/irritation

Causes skin irritation.

##### Serious eye damage/irritation

Causes serious eye irritation.

##### Respiratory or skin sensitisation

May cause an allergic skin reaction.

**Repeated dose toxicity** Tetrahydrofurfuryl-2-methacrylate: NOAEL 300 mg/kg



### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

### Reproductive toxicity

May damage the unborn child. Suspected of damaging fertility.

**STOT-single exposure** Based on available data, the classification criteria are not met.

**STOT-repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12

## ECOLOGICAL INFORMATION

### 12.1 Toxicity

**Aquatic toxicity:** No further relevant information available.

Type of test	Effective concentration	Method	Assessment
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Toxicity to fish: (THF-2-MA)	LC-50/96h: 34,7 mg/l	(lit.)	
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Species:  
Pimephales promelas

(HPMA)	LC-50/48h: 493 mg/l	(lit.)	
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Species:  
Leuciscus idus

Toxicity to Micro- Organism	EC-10/16h: > 1140 mg/l	(lit.)	
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Species:  
Pseudomonas putida

**12.2 Persistence and degradability** No further relevant information available.

**Other information:** THF-2-MA: inherent biological elimination, OECD 301 F, 28 d 75 %

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

### Ecotoxicological effects:

**Remark:** Harmful to fish

### Additional ecological information:

### General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

### 12.5 Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects** No further relevant information available.

## SECTION 13

## DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Recommendation

Must be specially treated adhering to official regulations.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

#### European waste catalogue

07 01 04*	other organic solvents, washing liquids and mother liquors
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#### Uncleaned packaging:

**Recommendation:** Disposal must be made according to official regulations.



<b>SECTION 14</b>	<b>TRANSPORT INFORMATION</b>
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<b>14.1 UN-Number</b> ADR, ADN, IMDG, IATA	<i>Void</i>
<b>14.2 UN proper shipping name</b> ADR, ADN, IMDG, IATA	<i>Void</i>
<b>14.3 Transport hazard class(es)</b> ADR, ADN, IMDG, IATA Class	<i>Void</i>
<b>14.4 Packing group</b> ADR, IMDG, IATA	<i>Void</i>
<b>14.5 Environmental hazards:</b> Marine pollutant:	<i>No</i>
<b>14.6 Special precautions for user</b>	<i>Not applicable.</i>
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	<i>Not applicable.</i>
<b>Transport/Additional information:</b>	<i>Not dangerous according to the above specifications.</i>
<b>UN "Model Regulation":</b>	<i>Void</i>

<b>SECTION 15</b>	<b>REGULATORY INFORMATION</b>
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**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
Directive 2012/18/EU

**Named dangerous substances - ANNEX I** None of the ingredients is listed.  
**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

**National regulations**

**Information about limitation of use:**

- Employment restrictions concerning juveniles must be observed.
- Employment restrictions concerning pregnant and lactating women must be observed.

**Technical instructions (air):**

Class	Share in %
I	< 2,5
III	2,5-10

**Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

<b>SECTION 16</b>	<b>OTHER INFORMATION</b>
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This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Relevant phrases**

- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H341 Suspected of causing genetic defects.
- H351 Suspected of causing cancer.
- H360Df May damage the unborn child. Suspected of damaging fertility.





H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.