	MATERIAL SAFETY DATA SHEET	MSDS No.	M-01
	Methacrylic Acid	Effective From	15/04/2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	: Substance
Trade name	: methacrylic acid
EC-No.	: 201-204-4
CAS-No.	: 79-41-4
Registration number	: 01-2119463884-26-XXXX

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : For more detail information, please refer to Annex (Exposure Scenarios)

1.2.2. Uses advised against

Restrictions on use : No information available

1.3. Details of the supplier of the safety data sheet

Name: Bloomchemag BV
Address: Sint - Antoniusstraat 16 b1,
B-2400 Mol, Belgium
Phone no. +91 72919 74484 / 72919 74050
Email: info@bloomchemag.com

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 4	H302
Acute toxicity (dermal), Category 3	H311
Acute toxicity (inhal.), Category 4	H332
Skin corrosion/irritation, Category 1A	H314
Serious eye damage/eye irritation, Category 1	H318
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No information available.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

GHS06

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H302 - Harmful if swallowed.
H332 - Harmful if inhaled.
H311 - Toxic in contact with skin.
H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.
Precautionary statements (CLP) : P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .
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 to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
METHACRYLIC ACID	(CAS-No.) 79-41-4 (EC-No.) 201-204-4	99.9	Acute Tox. 4 H302 Acute Tox. 3 H311 Acute Tox. 4 H332 Skin Corr. 1A H314 Eye Damage 1 H318 STOT Single Exp. 3 H335

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact	: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	: High volume water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. Avoid contact with skin, eyes and clothing. Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke during use. Wear protective gloves, protective clothing. Remove all sources of ignition.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Avoid release to the environment. Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Larger quantities: Remove mechanically (by pumping). Use explosion-proof equipment! Smaller quantities and/or residues: Contain with absorbent material (e.g. sand, diatomaceous earth, acid absorbent, universal absorbent or sawdust). Dispose of in accordance with regulations.
Other information	: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Keep container tightly closed. Provide good room ventilation even at ground level (vapours are heavier than air). Methacrylic acid freezes at 15°C (59°F). Improper thawing can result in violent polymerization. The thawing of frozen drums can best be accomplished by placing them in a heated room at temperatures up to 40°C (104°F). This will allow the acid to melt slowly within a 48-hour period. DO NOT remove any material if stock is frozen or partially frozen. Mix during and after thawing to properly distribute inhibitor. NEVER use steam or electric heating bands. Advice on protection against fire and explosion Keep away from heat/sparks/open flames/hot surfaces. No smoking. Take precautionary measures against static discharges. In the event of fire, cool the endangered containers with water. When heated above the flash point and/or during spraying (atomizing), ignitable mixtures may form in air. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapours/spray
Hygiene measures	: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Fill the container by approximately 90 % only as oxygen (air) is required for stabilisation. With large storage containers make sure the oxygen (air) supply is sufficient to ensure stability. Protect from light. Maintain the temperature of the methacrylic acid between 18°C and approx. 35°C. The ideal storage temperature is 20-25°C. Depending on the weather situations, temperatures up to 40°C may be applied during transport. Can polymerize with intense heat release.
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7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

methacrylic acid (79-41-4)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	4.25 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	29.6 mg/m ³
Long-term - local effects, inhalation	88 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, inhalation	6.3 mg/m ³
Long-term - systemic effects, dermal	2.55 mg/kg bodyweight/day
Long-term - local effects, inhalation	6.55 mg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	0.82 mg/l
PNEC aqua (marine water)	0.82 mg/l
PNEC aqua (intermittent releases)	0.82 mg/L
PNEC (Soil)	
PNEC soil	1.2 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Wear suitable gloves. The most appropriate glove will depend on consideration of a number of factors including the physical strength of the glove, the degree of manual dexterity required, the amount of permeation through the glove material and perhaps the cost of the glove. Gloves made from butyl rubber, Viton® or PVA/Polyethylene laminate offer the best protection. Gloves should be changed regularly and if excessive exposure has occurred.

Example: butyl rubber gloves (0.7 mm), Break through time 300 min (EN 374)

In practice, due to variable exposure conditions, this information can only be an aid to orientation for the selection of a suitable chemical protection glove. In particular, this information does not substitute suitability tests by the end user.

Eye protection:

Tightly fitting goggles

Skin and body protection:

On handling of larger quantities: face mask, chemical-resistant boots and apron

Respiratory protection:

Breathing apparatus in case of high concentrations, short-term: filter appliance, filter type A or combination filter ABEK

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	: Liquid
Appearance	: Clear, colourless liquid
Colour	: Clear, colourless
Odour	: Pungent
Odour threshold	: No data available
pH	: No data available
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: 15.4-15.5 °C
Freezing point	: No data available
Boiling point	: 162 °C
Flash point	: 67 °C
Critical temperature	: No data available
Auto-ignition temperature	: 400 °C at 1013 hPa
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 0.97 hPa at 20°C
Critical pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1.0141 g/cm ³ at 20 °C
Relative density of saturated gas/air mixture	: No data available
Density	: No data available
Relative gas density	: No data available
Solubility	: Water: 98 g/l at 20 °C
Log Pow	: 0.93 at 22 °C
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available.
Oxidising properties	: No data available.
Explosive limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity**10.1. Reactivity**

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions. Product reacts violently to explosively with alkali metals, alkaline earth metals, various metal powders, strong alkalis and ammonia. Reactions with alkalis. Reacts vigorously with water producing heat. Contact with metals and water liberates hydrogen. Reactions with organic

substances.

10.4. Conditions to avoid

The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is exceeded, the product may polymerize with heat evolution. Caution: In case of thawing crystallised methacrylic acid do not use temperatures above 35 °C. Strictly follow instructions of supplier.

10.5. Incompatible materials

Reactions with strong oxidizing agents.

10.6. Hazardous decomposition products

None when used as directed. No decomposition when used as directed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Oral: Harmful if swallowed.
Acute toxicity (dermal) : Dermal: Toxic in contact with skin.
Acute toxicity (inhalation) : Inhalation: Harmful if inhaled.

methacrylic acid (79-41-4)

Acute oral toxicity: (LD50: 1320 mg/kg bw)	LD50: 1320 mg/kg bw
Acute dermal toxicity: (LD50: 500 mg/kg bw)	LD50: 500 mg/kg bw
Acute inhalation toxicity: (LC50: 7100 mg/m ³)	LC50: 7100 mg/m ³

Skin corrosion/irritation : Causes severe skin burns and eye damage.
pH: No data available

Serious eye damage/irritation : Causes serious eye damage.
pH: No data available

Respiratory or skin sensitisation : Not classified
No adverse effect observed (not sensitising)

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified
Genetic toxicity: No adverse effect observed (negative)

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified
(NOAEC: 352 mg/m³) (subchronic; rat)
Target organs: respiratory: nose

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

12.2. Persistence and degradability

methacrylic acid (79-41-4)

Persistence and degradability	Biodegradation in water: readily biodegradable
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12.3. Bioaccumulative potential

methacrylic acid (79-41-4)

Log Pow	0.93 at 22 °C
Log Kow	No data available
Bioaccumulative potential	No information available.

12.4. Mobility in soil

methacrylic acid (79-41-4)

Ecology - soil	No information available.
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12.5. Results of PBT and vPvB assessment

methacrylic acid (79-41-4)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Other adverse effects : No information available.






SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
2531	2531	2531	2531	2531
14.2. UN proper shipping name				
METHACRYLIC ACID, STABILIZED	METHACRYLIC ACID, STABILIZED	Methacrylic acid, stabilized	METHACRYLIC ACID, STABILIZED	METHACRYLIC ACID, STABILIZED
Transport document description				
UN 2531 METHACRYLIC ACID, STABILIZED, 8, II, (E)	UN 2531 METHACRYLIC ACID, STABILIZED, 8, II	UN 2531 Methacrylic acid, stabilized, 8, II	UN 2531 METHACRYLIC ACID, STABILIZED, 8, II	UN 2531 METHACRYLIC ACID, STABILIZED, 8, II
14.3. Transport hazard class(es)				
8	8	8	8	8
				
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No

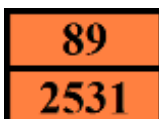
No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : C3
 Special provisions (ADR) : 386
 Limited quantities (ADR) : 1I
 Excepted quantities (ADR) : E2
 Packing instructions (ADR) : P001, IBC02, LP01
 Mixed packing provisions (ADR) : MP15
 Portable tank and bulk container instructions (ADR) : T7
 Portable tank and bulk container special provisions (ADR) : TP2, TP18, TP30

Tank code (ADR) : L4BN
 Vehicle for tank carriage : AT
 Transport category (ADR) : 2
 Special provisions for carriage - Packages (ADR) : V8
 Special provisions for carriage - Operation (ADR) : S4
 Hazard identification number (Kemler No.) : 89
 Orange plates :



Tunnel restriction code (ADR)	: E
Transport by sea	
Special provisions (IMDG)	386
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP2, TP18, TP30
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B
Stowage category (IMDG)	: C
Stowage and handling (IMDG)	: SW1, SW2
Properties and observations (IMDG)	: Colourless, combustible liquid with a specific odour. Miscible with water. Polymerizes readily above its melting point (15°C), thereby generating heat and possible risk of explosion; should therefore be properly stabilized. Cooling below melting point (15°C) followed by subsequent reheating can release uninhibited monomer that readily polymerizes. Decomposes when heated, evolving toxic gases. Causes burns to skin, eyes and mucous membranes.
Air transport	
PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y840
PCA limited quantity max net quantity (IATA)	: 0.5L
PCA packing instructions (IATA)	851
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	855
CAO max net quantity (IATA)	: 30L
Special provisions (IATA)	: A209
ERG code (IATA)	: 8L
Inland waterway transport	
Classification code (ADN)	: C3
Special provisions (ADN)	386
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E2
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EP
Number of blue cones/lights (ADN)	0
Rail transport	
Classification code (RID)	: C3
Special provisions (RID)	386
Limited quantities (RID)	: 1L
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001, IBC02, LP01
Mixed packing provisions (RID)	: MP15
Portable tank and bulk container instructions (RID)	: T7
Portable tank and bulk container special provisions (RID)	: TP2, TP18, TP30
Tank codes for RID tanks (RID)	: L4BN
Transport category (RID)	2
Colis express (express parcels) (RID)	: CE8
Hazard identification number (RID)	89

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

methacrylic acid is not on the REACH Candidate List

methacrylic acid is not on the REACH Annex XIV List

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

SECTION 16: Other information

Data sources : LOLI.

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

Full text of H- and EUH-statements:	
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
