

Adhesive R & D
4603 Anderson Drive
Eau Claire, WI. 54703
715-832-4557

MSDS: MP20 2 Part Methacrylate

Part A Adhesive

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier
Product name: MP20
1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Adhesive.
1.3. Details of the supplier of the safety data sheet
Supplier: Adhesive R & D
4603 Anderson Drive
Eau Claire, WI. 54703
715-832-4557

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
Classification (1999/45/EEC) Xi;R37, R38. R43. F;R11.
2.2. Label elements
Contains METHYL METHACRYLATE
Labeling Irritant
Risk Phrases
R11 Highly flammable
R37 Irritating to respiratory system.
R43 May cause sensitization by skin contact.
R38 Irritating to skin.
2.3. Other hazards
This product does not contain any PBT or vPvB substances.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures
METHACRYLIC ACID 1-10%
CAS-No.: 79-41-4
EC No.: 201-204-4
Classification (67/548/EEC)
C;R35
Xn;R21/22
Classification (EC 1272/2008)
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Skin Corr. 1A - H314
STOT Single 3 - H335
METHYL METHACRYLATE 30-60%
CAS-No.: 80-62-6
EC No.: 201-297-1
Classification (67/548/EEC)
F;R11
R43
Xi;R37/38
Classification (EC 1272/2008)
Flam. Liq. 2 - H225
Skin Irrit. 2 - H315
Skin Sens. 1 - H317
STOT Single 3 - H335
The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures
General information
Avoid contact with skin and eyes. Do not breathe vapour/spray. In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
Inhalation
Move the exposed person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Contact physician if discomfort continues.
Ingestion
Do not induce vomiting. Drink plenty of water. Get medical attention.
Skin contact
Remove affected person from source of contamination. Wash skin thoroughly with soap and water for several minutes. Contact physician if irritation persists.
Eye contact
Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention. Contact physician if irritation persists.

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

General information

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

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

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

Extinguish with foam, carbon dioxide or dry powder.

5.2. Special hazards arising from the substance or mixture

Specific hazards

Highly flammable. Avoid breathing fire vapors. May travel considerable distance to source of ignition and flash back. Polymerizes generating heat.

5.3. Advice for firefighters

Special Fire Fighting Procedures

Keep up-wind to avoid fumes. Avoid water in straight hose stream; will scatter and spread fire. Cool containers exposed to flames with water until well after the fire is out. Keep run-off water out of sewers and water sources. Dike for water control.

Protective equipment for fire-fighters Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Highly flammable Warn everybody of potential hazards and evacuate if necessary. Remove sources of ignition. Provide adequate ventilation. Avoid contact with skin and eyes. Avoid inhalation of spray mist and contact with skin and eyes. Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up absorb spillage with non-combustible, absorbent material. Transfer to a container for disposal. Containers with collected spillage must be properly labeled with correct contents and hazard symbol.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Avoid contact with skin and eyes. Take precautionary measures against static discharges. Storage tanks and other containers must be grounded. Do not smoke, use open fire or other sources of ignition. Observe good chemical hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name STD TWA - 8 Hrs STEL - 15 Min Notes

METHACRYLIC ACID WEL 20 ppm 72 mg/m³ 40 ppm 143 mg/m³

METHYL METHACRYLATE WEL 50 ppm 208 mg/m³ 100 ppm 416 mg/m³

WEL = Workplace Exposure Limit.

Ingredient Comments

WEL = Workplace Exposure Limits

8.2. Exposure controls

Protective equipment

Process conditions

Provide eyewash, quick drench.

Engineering measures

Provide adequate general and local exhaust ventilation.

Respiratory equipment

If ventilation is insufficient, suitable respiratory protection must be provided. Chemical respirator with organic vapor cartridge.

Hand protection

Use protective gloves made of: Rubber or plastic.

Eye protection

Wear approved chemical safety goggles where eye exposure is reasonably probable.

Hygiene measures

Keep away from food, drink and animal feeding stuffs. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Do not eat, drink or smoke when using the product. Change work clothing daily before leaving work place.

Skin protection

Wear apron or protective clothing in case of contact.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance Paste

Color White / off-white.

Odor Slightly pungent odor.

Initial boiling point and boiling range 101

Relative density 1.03 20 °C

Vapor density (air=1) >1

Vapor pressure 28 mmHg 20

Evaporation rate 3 (butyl acetate =1)

pH-Value, Diluted Solution 30.-3.5 5%
Viscosity 40, 000-60, 000 cps 25
Flash point (°C) 10 TCC (Tag closed cup).
Flammability Limit - Lower(%) 2.1
Flammability Limit - Upper(%) 12.5
9.2. Other information
Not available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
Reaction with: Strong oxidizing agents. Strong reducing agents.
10.2. Chemical stability
Stable under normal temperature conditions and recommended use. May polymerize.
10.3. Possibility of hazardous reactions
Hazardous Polymerization
May polymerize.
10.4. Conditions to avoid
Avoid heat, flames and other sources of ignition. Avoid excessive heat for prolonged periods of time. Avoid exposure to high temperatures or direct sunlight. Heating will generate vapours which may form explosive vapor/air mixtures.
10.5. Incompatible materials
Materials To Avoid
Avoid contact with oxidisers or reducing agents. Bases, alkalis (inorganic). Bases, alkalis (organic).
10.6. Hazardous decomposition products
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
Toxic Dose 1 - LD 50 METHYL METHACRYLATE 7872 mg/kg (oral rat)
Toxic Dose 2 - LD 50 METHACRYLIC ACID 1060 mg/kg (oral rat)
Toxic Conc. - LC 50 METHYL METHACRYLATE 7093 ppm/4h (inh-rat)
Inhalation
In high concentrations, vapors are narcotic and may cause headache, fatigue, dizziness and nausea. In high concentrations, vapors are anaesthetic and may cause headache, fatigue, dizziness and central nervous system effects.
Ingestion
Irritating. May cause nausea, stomach pain and vomiting.
Skin contact
May be absorbed through the skin. Irritating to skin. Prolonged or repeated exposure may cause severe irritation. May cause sensitization by skin contact. Risk of sensitization or allergic reactions among sensitive individuals.
Eye contact
Irritating to eyes. Risk of corneal damage.
Target Organs
Prolonged or repeated exposure may cause: May cause damage to the liver and kidneys. Central nervous system Respiratory system, lungs
Name METHYL METHACRYLATE
Toxic Dose 1 - LD 50 7872 mg/kg (oral rat)
Toxic Conc. - LC 50 7093 ppm/4h (inh-rat) Name METHACRYLIC ACID
Toxic Dose 1 - LD 50 1060 mg/kg (oral rat)

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
Avoid release to the environment.
12.1. Toxicity
Acute Fish Toxicity
Not considered toxic to fish.
12.2. Persistence and degradability
Degradability
Methyl methacrylate monomer : Biochemical oxygen demand within 5 days (BOD5) = .14 g/g - 0.9 g/g.
12.3. Bioaccumulative potential
Bioaccumulative potential
Methyl methacrylate monomer: LC50/96h/fathead minnows = 150 ppm, LC50/96h/bluegill sunfish = 232ppm. Methyl methacrylate monomer:
LC50/96h/rainbow trout = >79mg/l
12.4. Mobility in soil
Mobility:
Do not discharge into drains, water courses or onto the ground.
12.5. Results of PBT and vPvB assessment
This product does not contain any PBT or vPvB substances.
12.6. Other adverse effects
Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

General information
Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.
When handling waste, consideration should be made to the safety precautions applying to handling of the product.
13.1. Waste treatment methods
Dispose of waste and residues in accordance with local authority requirements.
Waste Class
08 04 09

SECTION 14: TRANSPORT INFORMATION

General No other information noted.
14.1. UN number

UN No. (ADR/RID/ADN) 1133
UN No. (IMDG) 1133
UN No. (ICAO) 1133
14.2. UN proper shipping name
Proper Shipping Name ADHESIVES
14.3. Transport hazard class(es)
ADR/RID/ADN Class 3
ADR/RID/ADN Class 3.
ADR Label No. 3
IMDG Class 3
ICAO Class/Division 3
14.4. Packing group
ADR/RID/ADN Packing group II
IMDG Packing group II
ICAO Packing group II
14.5. Environmental hazards
Environmentally Hazardous Substance/Marine Pollutant No.
14.6. Special precautions for user
EMS F-E, S-D
Emergency Action Code +3YE
Hazard No. (ADR) 33
Tunnel Restriction Code (D/E)
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
No information required.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Guidance Notes
This product is not considered to be corrosive to the skin in vivo according to EU Directive 67/548 EEC as amended.
EU Legislation
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.
Water hazard classification
WGK 1 WGH Nr. 154
15.2. Chemical Safety Assessment
No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Revision Date 05/08/2012
Risk Phrases In Full
R35 Causes severe burns.
R21/22 Harmful in contact with skin and if swallowed.
R11 Highly flammable
R37/38 Irritating to respiratory system and skin.
R37 Irritating to respiratory system.
R43 May cause sensitization by skin contact.
Hazard Statements In Full
H225 Highly flammable liquid and vapor.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

MSDS: MP20 2 Part Methacrylate

Part B Activator

1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

PRODUCT NAME: MP20 Activator

MANUFACTURER:

Adhesive R & D

4603 Anderson Drive

Eau Claire, WI. 54703

715-832-4557

2: COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content Classification
METHYL METHACRYLATE	201-297-1	80-62-6 60	99% R11 R43 Xi;R37/38
3,5-Diethyl-1,2-dihydro-1-phenyl----2-propylpyridin	252-091-3	24562-31-7	1% Xn-21/22

The Full Text for all R-Phrases are Displayed in Section 16

3: HAZARDS IDENTIFICATION

Highly flammable, may cause sensitization by skin contact, irritating to respiratory system and skin.

CLASSIFICATION: Xi;R37/38. R43. F;R11.

4: FIRST-AID MEASURES

GENERAL INFORMATION

Avoid contact with skin and eyes. Do not breathe vapors/spray. In case of accident or if you feel unwell, seek medical advice immediately

(Show label where possible).

INHALATION

Move the exposed person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering 100% oxygen. Contact physician if discomfort continues.

INGESTION

Do not induce vomiting. Drink plenty of water. Get medical attention.

SKIN CONTACT

Remove affected person from source of contamination. Wash skin thoroughly with soap and water for several minutes. Contact physician if irritation persists.

EYE CONTACT

Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

Contact physician if irritation persists.

5: FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Extinguish with foam, carbon dioxide or dry powder.

SPECIAL FIRE FIGHTING PROCEDURES

Keep up-wind to avoid fumes. Avoid water in straight hose stream; will scatter and spread fire. Cool containers exposed to flames with water until well after the fire is out. Keep run-off water out of sewers and water sources. Dike for water control.

SPECIFIC HAZARDS

Highly flammable, avoid breathing fire vapors. May travel considerable distance to source of ignition and flash back. Polymerizes, generating heat.

PROTECTIVE MEASURES IN FIRE

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Warn everybody of potential hazards and evacuate if necessary. Provide adequate ventilation. Remove sources of ignition. Avoid inhalation of spray mist and contact with skin and eyes. Wear protective clothing as described in Section 8 of this safety data sheet.

ENVIRONMENTAL PRECAUTIONS

Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be

IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body.

SPILL CLEAN UP METHODS

Absorb spillage with non-combustible, absorbent material. Transfer to a container for disposal. Containers with collected spillage must be properly labeled with correct contents and hazard symbol.

7: HANDLING AND STORAGE

USAGE PRECAUTIONS

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Avoid inhalation of vapors/spray and contact with skin and eyes. Take precautionary measures against static discharges. Storage tanks and other containers must be grounded. Do not smoke; use naked flames or other sources of ignition. Observe good industrial hygiene practices.

STORAGE PRECAUTIONS

Store in tightly closed original container in a cool, dry well-ventilated place.

8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Name Std LT - ppm LT - mg/m³ ST - ppm ST - mg/m³

METHYL METHACRYLATE OES 50 ppm 208 mg/m³ 100 ppm 416 mg/m³

PROCESS CONDITIONS

Provide eyewash, quick drench.

ENGINEERING MEASURES

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

RESPIRATORY EQUIPMENT

If ventilation is insufficient, suitable respiratory protection must be provided.

HAND PROTECTION

Use protective gloves made of: rubber or plastic.

EYE PROTECTION

Wear approved, tight fitting safety glasses where splashing is probable.

HYGIENE MEASURES

Keep away from food, drink and animal feeding stuffs. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Do not eat, drink or smoke when using the product. Change work clothing daily before leaving work place.

SKIN PROTECTION

Protection suit must be worn.

9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Paste

COLOUR: Yellow

ODOUR: Slightly pungent odor

BOILING POINT (°C): 101

RELATIVE DENSITY: 0.96 20 °C

VAPOUR DENSITY (air=1): 3.5

VAPOUR PRESSURE: 20 28mmHg

EVAPORATION RATE: 3 (butyl acetate =1)

pH-VALUE, 4.5-5.5 (5% DILUTED SOLUTION)

VISCOSITY: 40,000 -60,000 cps

FLASH POINT (°C): 10

FLAMMABILITY LIMIT – 2.1 LOWER (%)

FLAMMABILITY LIMIT - 12.5 UPPER (%)

10: STABILITY AND REACTIVITY

STABILITY

Stable under normal temperature conditions and recommended use. May polymerize.

CONDITIONS TO AVOID

Heating will generate vapors which may form explosive vapor/air mixtures. Avoid heat, flames and other sources of ignition. Avoid excessive heat for prolonged periods of time. Avoid exposure to high temperatures or direct sunlight.

HAZARDOUS POLYMERISATION

May polymerize.

MATERIALS TO AVOID

Avoid contact with oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors. Fire or high temperatures create: Nitrous gases (NO_x). Cyanides.

11: TOXICOLOGICAL INFORMATION

Name METHYL METHACRYLATE

Toxic Dose 1 - LD 50 7872 mg/kg (oral rat)

Toxic Conc. - LC 50 7093 ppm/4h (inh-rat)

INHALATION

In high concentrations, vapors are narcotic and may cause headache, fatigue, dizziness and nausea. In high concentrations, vapors are anesthetic and may cause headache, fatigue, dizziness and central nervous system effects.

INGESTION Irritating. May cause nausea, stomach pain and vomiting.

SKIN CONTACT

Maybe absorbed through the skin, irritating to skin. Prolonged or repeated exposure may cause severe irritation. May cause sensitization to the skin through direct contact. Risk of sensitization or allergic reactions among sensitive individuals.

EYE CONTACT

Can be irritating to the eyes, risk of corneal damage.

TARGET ORGANS

Prolonged or repeated exposure may cause: damage to the liver and kidneys, respiratory system, lungs, and central nervous system.

12: ECOLOGICAL INFORMATION

ECOTOXICITY

Avoid release to the environment.

MOBILITY

Do not discharge into drains, water courses or onto the ground.

DEGRADABILITY

Methyl methacrylate monomer: Biochemical oxygen demand within 5 days (BOD5) = .14 g/g - 0.9 g/g.

WATER HAZARD CLASSIFICATION

WGK 1 WGH Nr: 1252

13: DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

Dispose of waste and residues in accordance with local authority requirements.

WASTE CLASS: 08 04 09

14: TRANSPORT INFORMATION

UK ROAD CLASS 3

PROPER SHIPPING NAME: ADHESIVES

UN NO. ROAD 1133 UK ROAD PACK GR. II

ADR CLASS NO. 3 ADR CLASS CLASS # Flammable Liquid

ADR PACK GROUP: 3 HAZARD No. (ADR) 30

ADR LABEL NO. 3 HAZCHEM CODE 3Y

CEPIC TEC(R) NO. 30GF1-III, 30GF1-sp CLASS NO. 3 RID

PACK GROUP II UN NO. SEA 1133

IMDG CLASS 3 IMDG PAGE NO. 3

IMDG PACK GR. 3 EMS F-E, S-D

MFAG See Guide MARINE POLLUTANT NO

UN NO. AIR 1133 ICAO CLASS 3

AIR PACK GR. II

15 REGULATORY INFORMATION

LABELLING Irritant Highly Flammable

CONTAINS: METHYL METHACRYLATE

RISK PHRASES:

R11 Highly flammable.

R43 May cause sensitization by skin contact.

R37/38 Irritating to respiratory system and skin.

SAFETY PHRASES

S2 Keep out of the reach of children

S9 Keep container in a well-ventilated place.

S16 Keep away from sources of ignition - No smoking.

S29 Do not empty into drains.

S33 Take precautionary measures against static discharges.

16: OTHER INFORMATION

REVISION DATE: May 8, 2012

REV. NO./REPL. SDS GENERATED 2

RISK PHRASES IN FULL

R11 Highly flammable.

R37/38 Irritating to respiratory system and skin.

R43 May cause sensitization by skin contact..

We believe the information contained herein is current and accurate as of the date of this data Sheet. Since the use of this information and these opinions and the conditions of use of this product are not under the control of Adhesive R&D, Inc. or its agents or distributors, it is the user's obligation to determine the conditions of safe use of this product. The buyer should conduct its own tests of this product before use to determine proper preparation technique and suitability for proposed application. Adhesive R&D, Inc. warrants that the product conforms with Adhesive R&D's written specifications, and is free from defects and disclaims all other warranties, expressed or implied and is not responsible for loss claim of damages resulting from the use of its products.