

Trade name: M-R478 A

SECTION 1: Identification

Product identifier used on the label:

Product Name: M-R478 A

Other means of identification:

Product Code Number:

Recommended use of the chemical and restrictions on use:

Recommended use: Solvent-Based Adhesive

Recommended restrictions: Uses other than those described above

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:

Company Name: Forza Inc
Company Address: 3211 Nebraska Ave, Suite 300
Council Bluffs, IA 51501
U.S.
Company Telephone: 402-731-9300
Contact Email: info@forzabuilt.com
Emergency phone number: Chemtrec 1 (800)-424-9300

SECTION 2: Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200:

Physical hazards

Flammable liquid, category 2

Health hazards

Acute Toxicity, Oral, Category 4
Skin Irritation, Category 2
Skin Sensitization, Category 1
Eye Irritation, Category 2A
STOT SE, Category 3

Environmental hazards

Not adopted under OSHA paragraph (d) of §1910.1200

GHS Signal word: DANGER

GHS Hazard statement(s): Highly flammable liquid and vapor
Harmful if swallowed
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation
May cause respiratory irritation.

GHS Hazard symbol(s):



GHS Precautionary statement(s):

Prevention:

- Keep away from heat/sparks/open flames/hot surfaces.— No smoking.
- Keep container tightly closed.
- Ground/Bond container and receiving equipment
- Use explosion-proof electrical/ventilating/lighting equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Avoid breathing dust/fume/gas/mist/ vapors/spray.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing must not be allowed out of the workplace
- Wear protective gloves/protective clothing/eye protection/face protection

Response:

- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If swallowed: Call a poison center/doctor if you feel unwell.
- If inhaled: Remove person to fresh air and keep comfortable for breathing.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Call a poison center/doctor if you feel unwell.
- Specific treatment (see sections 4 to 8 on this SDS and any further information on the label).
- Rinse mouth
- If skin irritation or rash occurs: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.

- Take off contaminated clothing and wash it before reuse
- In case of fire: Use carbon dioxide or dry chemical to extinguish.

Storage:

- Store in a well-ventilated place. Keep cool.
- Store in a well-ventilated place. Keep container tightly closed.
- Store locked up

Disposal:

- Dispose of contents/container to an approved disposal site in accordance with local/regional/national/ international regulations

Hazard(s) not otherwise classified (HNOC):

None known

Percentage of ingredient(s) of unknown acute toxicity:

Not applicable

SECTION 3: Composition/information on ingredients

Chemical name	CAS#	Concentration (weight %)
Methyl Methacrylate Monomer	80-62-6	30-70
Methacrylic Acid	79-41-4	1-10

Note: The exact percentage (concentration) of composition has been withheld as a trade secret. The balance of the ingredients is not classified as hazardous or are below the concentration limit to be classified as hazardous, under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

SECTION 4: First-aid measures**Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion:**

Inhalation: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Seek medical advice.

Skin contact: Wash with water and soap and rinse thoroughly. Seek medical advice if irritation or pain develops.

Eye contact: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. If irritation occurs, call a physician.

Ingestion: Do NOT induce vomiting. If swallowed, wash mouth out with water provided the person is conscious. Follow with plenty of water. NEVER GIVE LIQUIDS TO AN UNCONCIOUS PERSON. Call a physician.

Most important symptoms/effects, acute and delayed:

Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation.

Indication of immediate medical attention and special treatment needed:

If any symptoms are observed, contact a physician and give them this SDS sheet. Treat symptomatically.

SECTION 5: Fire-fighting measures

Suitable (and unsuitable) extinguishing media:

Suitable extinguishing media: Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

HIGHLY FLAMMABLE LIQUID AND VAPOR: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers.

Runoff to sewer may create fire or explosion hazard. Containers may explode when heated.

Many liquids are lighter than water.

Sealed containers of adhesive may rupture violently at elevated temperatures due to polymerization. Organic peroxides can decompose violently if heated while confined.

Hazardous combustion products may include the following substances: Carbon Oxides (CO and CO₂), Methyl Methacrylate, and various Hydrocarbons.

Special protective equipment and precautions for fire-fighters:

Use water spray or fog for cooling exposed containers. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate all non-emergency personnel from area. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

No action shall be taken involving any personal risk or without suitable training. Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Environmental Precautions:

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. If spill occurs on water notify appropriate authorities.

Methods and material for containment and cleaning up:

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g., cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

Precautions for safe handling:

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

Conditions for safe storage, including any incompatibles:

Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.

Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS)

Storage temperature: 55-75°F

SECTION 8: Exposure controls/personal protection

OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.

Substance	OSHA PEL	ACGIH TLV	NIOSH IDLH
Methyl Methacrylate Monomer	TWA 100 ppm	TWA 50 ppm STEL 100 ppm	None known
Methacrylic Acid	None known	TWA 20 ppm	None known

Appropriate engineering controls:

Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended. Concentrations should be monitored hazardous substances in the workplace in accordance with recognized test methods. Mode, method, type and frequency of testing and measurement of harmful factors in the working environment should meet the requirements of local/regional/national laws.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear safety glasses, safety glasses with side shields or safety goggles. Use equipment for eye protection tested and approved under NIOSH standards.

Skin and hand protection: Wear chemical-resistant gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Chemical resistant apron.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a chemical respirator with organic vapor cartridge and full facepiece. Use respirators and components tested and approved under appropriate government standards such as NIOSH).

General hygiene considerations: When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9: Physical and chemical properties**Appearance (physical state, color, etc.):**

Physical state: Liquid / Paste

Color: White

Odor: Mild sweet.

Odor threshold: Not available

M-R478 A

pH:	4.0 – 6.0
Melting point/freezing point:	-54°F (-48°C)
Initial boiling point and boiling range:	212°F (100°C)
Flash point:	50°F (10°C)
Evaporation rate:	3
Flammability (solid, gas):	Class 1B
Upper/lower flammability or explosive limits	
Lower limit (%):	1.7%
Upper limit (%):	12.5%
Vapor pressure:	28 mm Hg
Vapor density:	3.5
Relative density:	0.93 – 1.05
Solubility (ies):	Not available.
Partition coefficient (n-octanol/water):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	20K – 200K cps

SECTION 10: Stability and reactivity

Reactivity:	Product is stable as supplied and when used as intended. Product can become unstable under certain conditions or in contact with incompatible materials.
Chemical stability:	Stable under recommended storage and handling conditions.
Possibility of hazardous reactions:	Polymerization may occur under certain conditions.
Conditions to avoid:	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials:	Oxidizing agents and conditions, strong acids and alkalis, oxygen-free atmospheres, inert gas blanketing, and free radical initiators.
Hazardous decomposition Products:	In case of fire - Carbon dioxide, carbon monoxide, Methyl Methacrylate, and various Hydrocarbons.

SECTION 11: Toxicological information

Information on likely routes of exposure:

Inhalation:	Respiratory tract irritant. Prolonged exposure may result in dizziness, nausea, headache, and anesthetic effects. May cause sensitization. Pre-existing respiratory conditions may be aggravated by exposure to this product. May cause CNS depression.
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M-R478 A

Ingestion: Not an expected route of entry. If ingested, it may cause irritation to the gastrointestinal tract.

Skin: May cause irritation of the skin. Prolonged exposure may cause sensitization. Pre-existing skin conditions may be aggravated by exposure to this material.

Eyes: May cause irritation and/or sensitization.

Target Organs: Skin, eyes, respiratory tract, digestive tract, liver, kidney, olfactory and Central Nervous System (CNS).

Symptoms related to the physical, chemical, and toxicological characteristics:

Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation.

Delayed and immediate effects and chronic effects from short or long-term exposure:
See above.

Numerical measures of toxicity (such as acute toxicity estimates):

Ingredient Information:

Substance	Test Type (species)	Value
Methyl Methacrylate Monomer	LD ₅₀ Oral (Rat)	8420 - 10000 mg/kg
	LD ₅₀ Dermal (Rabbit)	5000 - 7500 mg/kg
	LC ₅₀ Inhalation (Rat)	7093 ppm 4h
Methacrylic Acid	LD ₅₀ Oral (Rat)	1060 mg/kg
	LD ₅₀ Dermal (Rabbit)	500 - 1000 mg/kg
	LC ₅₀ Inhalation (Rat)	7.1 mg/L 4h

Skin corrosion/irritation:	Causes skin irritation
Serious eye damage/eye irritation:	Causes serious eye irritation
Respiratory sensitization:	Does not meet the criteria for classification
Skin sensitization:	May cause an allergic skin reaction
Germ cell mutagenicity:	Does not meet the criteria for classification
Carcinogenicity:	Does not meet the criteria for classification.
Reproductive toxicity:	Does not meet the criteria for classification.
Specific target organ toxicity-Single exposure:	May cause respiratory irritation.
Specific target organ toxicity-Repeat exposure:	Does not meet the criteria for classification
Aspiration hazard:	Does not meet the criteria for classification

Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA:

Component	IARC	NTP	ACGIH	OSHA
Methyl Methacrylate Monomer	IARC - Group 3 (Not Classifiable)	Not listed	Not listed	Not listed
Methacrylic Acid	Not listed	Not listed	Not listed	Not listed

SECTION 12: Ecological information

Ecotoxicity (aquatic and terrestrial, where available): May cause long lasting harmful effects to aquatic life.

Substance	Test Type	Species	Value
Methyl Methacrylate Monomer	LC ₅₀	Fish Pimephales promelas	125.5 - 190.7 mg/L 96h
	EC ₅₀	Aquatic Invertebrates Daphnia magna	69 mg/L 48h
	EC ₅₀	Algae Pseudokirchneriella subcapitata	170 mg/L 96h
Methacrylic Acid	LC ₅₀	Fish Oncorhynchus mykiss	85 mg/L 96h
	EC ₅₀	Aquatic Invertebrates Daphnia magna	None known
	EC ₅₀	Algae freshwater	None known

Persistence and Degradability:

No data available

Bioaccumulative Potential:

No data available

Mobility in Soil:

No data available

Other adverse effects (such as hazardous to the ozone layer):

May cause long lasting harmful effects to aquatic life.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

Product

Dispose of waste materials in accordance with applicable local and national laws and regulations. Where possible, recycling is preferred to disposal or incineration. Contact the proper local authorities.

Contaminated packaging

Since emptied containers retain product residue, follow label warnings even after container is emptied. Dispose of as unused product.

SECTION 14: Transport Information

US Department of Transportation Classification (49CFR)

UN1133, Adhesives, 3, II

IMDG (Transport by sea)

UN1133, ADHESIVES, 3, II

IATA (Country variations may apply)

UN1133, ADHESIVES, 3, II

Environmental hazards

Marine pollutant: Yes

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

No further relevant information available.

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory Information

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200. The product is classified as hazardous under OSHA.

Toxic Substances Control Act (TSCA) – All components are listed on the TSCA inventory or are exempted.

CERCLA RQ (lbs) Ingredients (> 0.1%):

Methyl methacrylate: 1000 lb final RQ; 454 kg final RQ

SARA Superfund and Reauthorization Act of 1986 Title III sections 302, 311, 312 and 313:

Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A) (> 0.1%):

None of the components are listed

Section 311/312 (40 CFR 370) (> 0.1%):

Flammable (gases, aerosols, liquids, or solids)

Acute toxicity (any route of exposure)

Skin corrosion or irritation

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

Specific target organ toxicity (single or repeated exposure)

Section 313 Toxic Release Inventory (40 CFR 372) (> 0.1%):

Methyl methacrylate: 1.0 % de minimis concentration

STATE REGULATIONS:

This SDS contains specific health and safety data is applicable for state requirements. For details on your regulatory requirements, you should contact the appropriate agency in your state.

California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986:

None of the components are listed

Massachusetts Right to Know:

Methyl methacrylate and Methacrylic acid are listed on the Massachusetts Right to Know list

New Jersey Right to Know:

Methyl methacrylate is listed on the Massachusetts Right to Know list

Pennsylvania Right to Know:

Methyl methacrylate and Methacrylic acid are listed on the Massachusetts Right to Know list are listed on the Pennsylvania Right to Know list

SECTION 16: Other Information

Revision Date: Aug 29, 2022

DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. The manufacturer MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. Given the variety of factors that can affect the use and application of this product, many of which are solely within the user's knowledge and control, the user is responsible for determining whether the usage of this product is fit for a particular purpose and suitable for the user's method of use or application. It is essential that the user, not the manufacturer, evaluates this product to determine whether it is fit for a particular purpose and suitable for the user's method of use or application.