Section 1. Identification of the substance/mixture and of the company/undertaking

Product Name: CS-A Adhesive Resin
Supplier: CSNRI | 621 Lockhaven Drive. Houston, TX 77073 | +1 281.590.8491
Emergency Phone Number: 800.424.9300 (CHEMTREC)
+1 703.741.5970 (Outside the US)
Product Description: Resin
Product Use: For industrial purposes only.
Chemical Name or Synonym: CS-MA-042-2, CS-MA-060-2, CS-MA-085-2, CS-MA-106-2, CS-MA-116-2,CS-MA-023-2, CS-MA-007-2,CS-MA-014-2

Section 2. Hazards identification

Classification of the substance or mixture
Flammable Liquid – Category 2
Skin Irritation – Category 2
Skin Sensitization – Category 1
Eye Damage/Irritation – Category 2A
Acute toxicity / Inhalation – Category 4
Specific Target Organ Toxicity, Single Exposure – Category 3
Specific Target Organ Toxicity, Repeated Exposure – Category 2

Hazard pictograms:

Signal word: Danger
Hazard statements:
H225 - Highly flammable liquid and vapor.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H332 - Harmful if inhaled.
H335 - May cause respiratory irritation.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:
P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash thoroughly after handling.
P272 - Contaminated work clothing must not be allowed out of the workplace.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P370+P378 - In case of fire: Use dry chemical, carbon dioxide to extinguish small fires. Use water for large fires.

Other hazards: No information available.

Section 3. Composition/Information on Ingredients

Substances: N/A

Mixtures:

Common Name	CAS No.	Weight %
Methyl Methacrylate	80-62-6	60 – 80
Styrene/Butadiene Copolymer	9003-55-8	10 – 20
Diisodecyl adipate	27178-16-1	2.5 – 10

Section 4. First Aid Measures

Description of first aid measures:

Eye Contact: Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Skin Contact: Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion: If swallowed, do NOT induce vomiting. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Most important symptoms/effects, both acute and delayed: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Section 5. Fire Fighting Measures

Suitable extinguishing media: Water fog. Foam. Carbon dioxide (C02). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.
Special hazards arising from the substance or mixture: Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective actions for fire-fighters: Self-contained breathing apparatus and full protective clothing

must be worn in case of fire. In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards: Highly flammable liquid and vapor.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

For emergency responders: It may be necessary to use protective suits, individual breathing equipment, gloves, protective goggles or facemasks, and boots.

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

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. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

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. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up. 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 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).

Section 8. Exposure Controls/Personal Protection

Control parameters:

Component	Exposure Limits		
	ACGIH-TLV	OSHA	NIOSH
Methyl Methacrylate	STEL – 100 ppm TWA – 50 ppm	410 mg/ m^3	410 mg/ m^3 – TWA 100 ppm

Appropriate engineering controls: Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process exhaust ventilation, or other engineering controls to maintain airborne levels exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures:

Eye/Face Protection: Wear safety glasses with side shields (or goggles).
Skin Protection Description: Wear appropriate chemical resistant gloves and resistant clothing.
Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazard: Wear appropriate thermal protective clothing, when necessary.
General hygiene consideration: When using do not 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. Contaminated work clothing should not be allowed out of the workplace.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State:	Paste
Color:	Off-white
Odor:	Slight
Melting Point:	-54.4 °F (-48 °C)
Boiling Point:	212.9 °F (100.5 °C)
Lower Flammable/Explosive Limit:	2.1%
Upper Flammable/Explosive Limit:	12.5%
Flash Point:	50°F (10°C)
Solubility:	Not determined
Vapor Pressure:	51.33 hPa (estimated)
Vapor Density:	Not available
Density:	0.93-1.05
Percent Volatile:	Not determined
Evaporation Rate:	Not determined
Percent Solids by Weight:	Not determined
Other properties:	
Density:	0.93 – 1.05 g/cm^3 (estimated)
Explosive properties:	Not explosive
Flammability:	Flammable IB (estimated)
Oxidizing properties:	Not oxidizing

Specific gravity: 0.93 – 1.05 (estimated)
VOC: <50 g/l

Section 10. Stability and Reactivity

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability: Stable under standard normal conditions.
Possibility of hazardous reactions: Hazardous polymerization does not occur.
Conditions to avoid: Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the decomposition temperature. Avoid temperatures exceeding the flash point. Contact with incompatible materials
Incompatible materials: Strong oxidizing agents. Nitrates. Peroxides.
Hazardous decomposition products: No hazardous decomposition products are known.

Section 11. Toxicological Information

Information on likely routes of exposure

Skin contact: Causes skin irritation. May cause an allergic skin reaction.
Ingestion: Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics: Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects:

Component	Species	Test Results
Methyl Methacrylate	Mouse Rat	18.5 mg/l, 2 Hours (LC50-Inhalation) 7,800 mg/kg (LD50-Oral)

Skin corrosion/irritation: Causes skin irritation.
Respiratory or skin sensitization:

Methyl Methacrylate: Dermal sensitization.
Respiratory sensitization: No data available.
Skin sensitization: May cause allergic skin reaction.

Germ cell mutagenicity: No data available.
Carcinogenicity: Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Methyl Methacrylate 3 - Not classifiable as to carcinogenicity to humans.
Styrene/butadiene Copolymer 3 - Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053): Not listed
US. National Toxicology Program (NTP) Report on Carcinogens: Not listed

Reproductive toxicity: No data available.
Specific target organ toxicity - single exposure: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure: Not classified
Aspiration hazard: Not an aspiration hazard.
Chronic effects: Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure.

Section 12. Ecological Information

Ecotoxicity: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability: No data is available on the degradability of any ingredients in the mixture.
Bioaccumulative potential:

Partition coefficient n-octanol / water (log Kow)

Methyl Methacrylate	1.38

Mobility in soil: No data available.
Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Section 13. Disposal Considerations

Disposal Instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. If discarded, this product is considered a RCRA ignitable waste, DOOI. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations: Dispose in accordance with all applicable regulations.
Hazardous waste code: DOOI: Waste Flammable material with a flash point <140 F. The waste code should be assigned in discussion between the user, the producer and the waste disposal company
Waste from residues / unused products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14. Transport Information

DOT

UN Number:	UN1133
UN Proper shipping name:	Adhesives, containing a flammable liquid.
Transport hazard class:	3
Subsidiary risk	-
Label(s):	3
Packing group:	II
Special precautions for user:	Read safety instructions, SDS and emergency procedures before handling.
Special provisions:	149, 852, IB2, T4, TPI, TP8
Packaging exceptions:	150
Packaging non bulk:	173
Packaging bulk:	242

IATA

UN Number:	UN1133
UN Proper shipping name:	Adhesives, containing a flammable liquid. Limited Quantity
Transport hazard class:	3
Subsidiary risk	-
Packing group:	II
Environmental hazard:	No
ERG Code:	3L

Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.

Other information:

Passenger and Cargo aircraft: Allowed with restriction

Cargo aircraft only: Allowed with restriction

IMDG

UN Number: UN1133

UN Proper shipping name: Adhesives, containing a flammable liquid. Limited Quantity

Transport hazard class: 3

Subsidiary risk -

Packing group: II

Environmental hazard:

Marine Pollutant: No

ERG Code: F-E, S-D

Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

Section 15. Regulatory Information

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

US federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

US EPCRA (SARA Title III) Section 313 • Toxic Chemical: De minimis concentration

Methyl Methacrylate (CAS 80-62-6) 1.0%

US EPCRA (SARA Title III) Section 313 • Toxic Chemical: Listed substance

Methyl Methacrylate (CAS 80-62-6) Listed.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4).

Methyl Methacrylate (CAS 80-62-6) Listed.

SARA 304 Emergency release notification Not Regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Superfund Amendments and Reauthorization Act of 1986 (SARA): Not listed

SARA 302 Extremely hazardous substance Not listed

SARA 311/312 Hazardous chemical Yes

Classified hazard categories: Flammable (gases, aerosols, liquids, or solids). Skin corrosion or irritation. Serious eye damage or eye irritation. Respiratory or skin sensitization. Specific target organ toxicity (single or repeated exposure). Hazard not otherwise classified (HNOC).

SARA 313 (TRI Reporting)

Methyl Methacrylate	80-62-6	15 – 40

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) - List

Methyl Methacrylate

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not Regulated

Safe Drinking Water Act – Not Regulated

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Methyl Methacrylate – Low priority

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Methyl Methacrylate (CAS 80-62-6)

International Inventories		
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Section 16. Other Information

HMIS ratings

Health: 2

Flammability: 3

Physical hazard: 1

NFPA ratings

Health: 2
Flammability: 3
Physical hazard: 1

Abbreviations and acronyms used:

DOT:	Department of Transportation
IATA:	International Air Transport Association.
IMDG:	International Maritime Code for Dangerous Goods.
LC50:	Lethal concentration, 50%.
LD50:	Lethal dose, 50%.

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Date of issue: 30/11/2015 **Revision date:** 01/19/2023 **Supersedes:** 01/11/2023 **Version:** 7.0