Section 1. Identification

Product Name: CSF Filler 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: Filler
Product Use: Intended to repair pipes
Chemical Name or Synonym: CSF-P-016-2

Section 2. Hazards Identification

Classification of the substance or mixture
Flammable Liquid – Category 2
Skin Irritation – Category 2
Skin Sensitization – Category 1A
Eye damage / irritation – Category 2A
STOT SE – Category 3

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
H335 May cause respiratory irritation.

Precautionary statements:
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER/doctor if you feel unwell.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Other hazards: No available information.

Section 3. Composition/Information on Ingredients

Substances: N/A

Mixtures:

Component	CAS #	Weight %
Quartz	14808-60-7	40 – 70
Methyl Methacrylate	80-62-6	15 – 40
Aluminum oxide	1344-28-1	1 – 5
Calcium hydroxide	1305-62-0	1 – 5
Calcium metasilicate	13983-17-0	1 – 5

Section 4. First Aid Measures

Description of first-aid measures:
In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

Skin Contact: Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

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.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Rinse mouth. Get medical attention if symptoms occur.

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.

Indication of immediate medical attention and special treatment needed, if necessary: Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

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.
Other Precautions: Pump or shovel to storage/salvage vessels. Add inhibitor to prevent polymerization.

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.
Hygiene practices: Wash hands thoroughly after handling.
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

Occupational Exposure Limits:

Component	Exposure Limits		
	ACGIH-TLV	OSHA	NIOSH
Aluminum oxide	1 mg/m^3 TLV-TWA (respirable fraction)	5 mg/m^3 PEL-TWA (respirable fraction) 15 mg/ m^3 PEL-TWA (total dust)	-
Calcium hydroxide	5 mg/ m^3 TLV-TWA (respirable fraction)	5 mg/ m^3 PEL (respirable fraction) 15 mg/ m^3 PEL (total dust)	5 mg/ m^3 - TWA
Calcium metasilicate	5 mg/ m^3 TLV-TWA (inhalable fraction)	-	-
Methyl Methacrylate	STEL – 100 ppm TWA – 50 ppm	410 mg/ m^3	410 mg/ m^3 - TWA
Quartz	0.025 mg/ m^3 TLV-TWA (respirable fraction)	100 ppm (0.05 mg/ m^3) - PEL (respirable dust) 0.01 mg/ m^3-TWA (respirable)	0.05 mg/ m^3 -TWA (respirable dust)

Exposure guidelines: Occupational Exposure Limits are not relevant to the current physical form of the product.

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:	White
Odor:	Pungent
Melting Point:	-54.4 °F (-48 °C)

Boiling Point:	213°F (100.5°C)
Lower Flammable/Explosive Limit:	2.1% (estimated)
Upper Flammable/Explosive Limit:	12.5% (estimated)
Flash Point:	50°F (10°C) (estimated)
Auto Ignition Temperature:	Not available
Decomposition Temperature:	Not available
pH:	Not determined
Solubility:	Not available
Vapor Pressure:	51.33 hPa (estimated)
Vapor Density:	Not available
Relative Density:	Not available
Viscosity:	Not available
Percent Volatile:	Not determined
Evaporation Rate:	Not available
Flammability (solid, gas):	Not available
Explosive limit:	Not available
Partition coefficient:	Not available
Other properties:	
Density:	0.95 g/cm^3 (estimated)
Explosive properties:	Not explosive
Flammability:	Flammable IB (estimated)
Oxidizing properties:	Not oxidizing
Specific gravity:	0.95 (estimated)

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

Inhalation: May cause irritation to the respiratory system.
Skin contact: Causes skin irritation. May cause an allergic skin reaction.
Eye contact: Causes serious eye irritation.
Ingestion: Expected to be a low ingestion hazard.

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

Information on toxicological effects:

Component	Species	Test Results
Calcium hydroxide	Rat	7,340 mg/kg (LD50-Oral)
Methyl Methacrylate	Mouse Rat	18.5 mg/l, 2 Hours (LC50-Inhalation) 7,800 mg/kg (LD50-Oral)

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/eye irritation: Causes serious eye irritation.
Respiratory or skin sensitization:
Methyl Methacrylate: Dermal sensitization
Respiratory sensitization: Not a respiratory sensitizer.
Skin sensitization: May cause allergic skin reaction.
Germ cell mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity: Not classifiable as to carcinogenicity to humans.
IARC Monographs. Overall Evaluation of Carcinogenicity
Calcium Metasilicate 3 Not classifiable as to carcinogenicity to humans.
Methyl Methacrylate 3 Not classifiable as to carcinogenicity to humans.
Quartz 1 Carcinogenic to humans.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Quartz Cancer
US. National Toxicology Program (NTP) Report on Carcinogens
Quartz Known to be human carcinogen

Reproductive toxicity: This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure: Not classified
Aspiration hazard: Not an aspiration hazard.

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
Aluminium Oxide (CAS 1344-28-1) 1.0%
Methyl Methacrylate (CAS 80-62-6) 1.0%
US EPCRA (SARA Title III) Section 313 • Toxic Chemical: Listed substance
Aluminium Oxide (CAS 1344-28-1) Listed.
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)
Quartz (CAS 14808-60-7) Cancer, lung effects, immune system effects, kidney effects
Superfund Amendments and Reauthorization Act of 1986 (SARA)
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
Aluminum oxide	1344-28-1	1 – 5

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

California Proposition 65:

WARNING: This product can expose you to Quartz, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic Substance:

Quartz (CAS 14808-60-7) Listed: October 1, 1988

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

Methyl Methacrylate (CAS 80-62-6)

Quartz (CAS 14808-60-7)

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)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
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: 0

NFPA ratings

Health: 2
Flammability: 3
Physical hazard: 0

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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