

SAFETY DATA SHEET

1. Product and Company Identification

Product Name: MFS01, MFS05, MFS55 –Mold Cleaner
Product Code: MFS55 **Chemical Type:** Solvent Blend
Product Use: Fast evaporating Low VOC mold cleaner. Use as received.

WARNING! FLAMMABLE LIQUID AND VAPOR

Manufacturer: Plastic Process Equipment, Inc. **Revision Date:** 5/3/2018
Address: 8303 Corporate Park Drive **Emergency:** 1-800-262-8200 ID 1195 (USA)
Macedonia, Ohio 44056 **Phone:** (800) 321-0562

2. Hazards Identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquid: Category 2.

Skin irritation: Category 2.

Specific target organ toxicant (central nervous system): Category 3.

Aspiration toxicant: Category 1

Other Hazards

Electrostatic charge may be generated during pumping and other operations

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word Danger

Hazard statement(s)

H225: Highly flammable liquid and vapor.

H304: May be fatal if swallowed and enters airways.

H315: Causes skin irritation. H336: May cause drowsiness or dizziness

Precautionary statement(s)

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, and lighting equipment.

P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge.

P261: Avoid breathing mist / vapors.

P264: Wash skin thoroughly after handling.

P271: Use only outdoors or in a well ventilated area.

P273: Avoid release to the environment.

P280: Wear protective gloves and eye / face protection.

P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312: Call a POISON CENTER or doctor/physician if you feel unwell.

P331: Do NOT induce vomiting.

P332 + P313: If skin irritation occurs: Get medical advice/ attention.

P362 + P364: Take off contaminated clothing and wash it before reuse.

P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish.

P391: Collect spillage. P403 + P235: Store in a well-ventilated place. Keep cool.

P405: Store locked up.

P501: Dispose of contents and container in accordance with local regulations.

PHYSICAL / CHEMICAL HAZARDS

Flammable. Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

May be irritating to the eyes, nose, throat, and lungs. May cause central nervous system depression.

ENVIRONMENTAL HAZARDS

Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Component & CAS Number	Volume %	OSHA hazard category:
NAPHTHA (PETROLEUM), LIGHT ALKYLATE 64741-66-8	65-75	Hazardous
C9-C11 Isoalkanes 68551-16-6	25-35	Hazardous

4. First Aid Measures

General advice:

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately. This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

5. Fire Fighting Measures

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use foam, dry chemical, or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Highly flammable. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon, Smoke, Fume

FLAMMABILITY PROPERTIES

Flash Point [Method]: 4°C (39°F) [ASTM D-56]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 6.0

Autoignition Temperature: 380°C (716°F) [ASTM E659]

6. Accidental Release Measures

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders. For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H₂S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended.

Note: gloves made of polyvinyl acetate (PVA) are not water resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Water Spill: Stop leak if you can do it without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 degrees C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants. Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted.

Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

7. Handling and Storage

Handling: FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN

HANDLING

Avoid contact with skin. Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Loading/Unloading Temperature: [Ambient]

Transport Temperature: [Ambient]

Transport Pressure: [Ambient]

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible

pressure release. Store in a cool, well ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.

Storage Temperature: [Ambient]

Storage Pressure: [Ambient]

Suitable Containers/Packing: Drums; Tank Cars; Tank Vessel; Tank Trucks

Suitable Materials and Coatings (Chemical Compatibility): Carbon Steel; Stainless Steel; Polyester; Teflon; Polyethylene; Polypropylene

Unsuitable Materials and Coatings: Butyl Rubber; Polystyrene; Ethylene-propylene-diene monomer (EPDM); Natural Rubber

8. Exposure Controls / Personal Protection

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider: Adequate ventilation should be provided so that exposure limits are not exceeded. Use explosion proof ventilation equipment.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: Half-face filter respirator For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include: Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include: Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: 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. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

Other Suggested Equipment:

Eye wash station and emergency showers should be available. Spill containment equipment should be available.

Discretion Advised:

Chemical Solvents Inc. takes no responsibility for determining what measures are required for personal protection in any specific application. The general information should be used with discretion.

Exposure guidelines:

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form Limit / Standard	NOTE	Source
ISOOCTANE	TWA 2350 mg/m ³ 500 ppm	N/A	OSHA Z1
ISOOCTANE	TWA 300 ppm	N/A	ACGIH
NAPHTHA (PETROLEUM), LIGHT ALKYLATE	Vapor. RCP –TWA 1200 mg/m ³	241 ppm Total Hydrocarbons	ExxonMobil
C9-C11 Isoalkanes	N/E		

9. Physical and Chemical Properties

GENERAL INFORMATION

Physical State: Liquid

Form: Clear

Color: Colorless

Odor: Sweet

Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15.6 °C): 0.72 [With respect to water] [Calculated]

Density (at 15.6 °C): 720 kg/m³ (6.01 lbs/gal, 0.72 kg/dm³) [ASTM D4052]

Flammability (Solid, Gas): N/A

Flash Point [Method]: 4°C (39°F) [ASTM D-56]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 6.0

Autoignition Temperature: 380°C (716°F) [ASTM E659]

Boiling Point / Range: 115°C (239°F) - 140°C (284°F) [ASTM D86]

Decomposition Temperature: N/D

Vapor Density (Air = 1): 4.1 at 101 kPa [Calculated]

Vapor Pressure: 2 kPa (15 mm Hg) at 20 °C [Calculated]

Evaporation Rate (n-butyl acetate = 1): 2 [Calculated]

pH: N/A

Log Pow (n-Octanol/Water Partition Coefficient): > 4 [Estimated]

Solubility in Water: Negligible

Viscosity: 0.7 cSt (0.7 mm²/sec) at 40 °C | 1.6 cSt (1.6 mm²/sec) at 20°C [Calculated]

Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D

Melting Point: N/A

Hygroscopic: No

10. Stability and Reactivity

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

11. Toxicological Information

NAPHTHA (PETROLEUM), LIGHT ALKYLATE

Hazard Class Conclusion / Remarks

Inhalation

Acute Toxicity: (Rat) 4 hour(s) LC50 > 20 mg/l (Vapor)

Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 403 Irritation: No end point data for material. Negligible hazard at ambient/normal handling temperatures.

Ingestion

Acute Toxicity (Rat): LD50 > 5000 mg/kg Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 401

Skin

Acute Toxicity (Rabbit): LD50 > 2000 mg/kg Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 402 Skin Corrosion/Irritation: Data available. Irritating to the skin. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 404

Eye

Serious Eye Damage/Irritation: Data available. May cause mild, short-lasting discomfort to eyes. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 405

Sensitization

Respiratory Sensitization: No end point data for material. Not expected to be a respiratory sensitizer. Skin Sensitization: Data available. Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406

Aspiration: Data available. May be fatal if swallowed and enters airways. Based on physicochemical properties of the material.

Germ Cell Mutagenicity: Data available. Not expected to be a germ cell mutagen. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 471 473 476 478

Carcinogenicity: No end point data for material. Not expected to cause cancer.

Reproductive Toxicity: Data available. Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 416

Lactation: No end point data for material. Not expected to cause harm to breast-fed children.

Specific Target Organ Toxicity (STOT)

Single Exposure: No end point data for material. May cause drowsiness or dizziness. Repeated Exposure: Data available. Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 413

OTHER INFORMATION

For the product itself:

Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug.

C9-C11 Isoalkanes

Acute oral toxicity: LD50: 34,600 mg/kg Species: Rat
Acute dermal toxicity: LD50: 15,400 mg/kg Species: Rabbit
Skin irritation: May cause skin irritation and/or dermatitis.
Eye irritation: No eye irritation. Vapors may cause irritation to the eyes, respiratory system and the skin.
Repeated dose toxicity: Species: Rat Application Route: Inhalation Dose: 0, 314, 922 ppm
Exposure time: 12 wk Number of exposures: 6 h/d, 5 d/wk NOEL: > 922 ppm
Developmental Toxicity Species: Rat Application Route: Inhalation Dose: 0, 291, 817 ppm
Number of exposures: 6 h/d Test period: GD 6-15 NOAEL Teratogenicity: > 817 ppm
NOAEL Maternal: > 817 ppm
Aspiration toxicity: May be fatal if swallowed and enters airways. Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen.

12. Ecological Information

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation: Material -- Expected to be inherently biodegradable

Hydrolysis: Material -- Transformation due to hydrolysis not expected to be significant.

Photolysis: Material -- Transformation due to photolysis not expected to be significant.

Atmospheric Oxidation: Material -- Expected to degrade rapidly in air

13. Disposal Considerations

Dispose of spilled material in accordance with state and local regulations for waste that is non-hazardous by Federal definition. Note that this information applies to the material as manufactured; processing, use, or contamination may make this information inappropriate, inaccurate, or incomplete. Note that this handling and disposal information may also apply to empty containers, liners and rinsate. State or local regulations or restrictions are complex and may differ from federal regulations. This information is intended as an aid to proper handling and disposal; the final responsibility for handling and disposal is with the owner of the waste.

14. Transport Information

US Department of Transportation

Shipping name:	PETROLEUM DISTILLATES,N.O.S.
Hazard class:	3 (Flammable Liquid)
UN/NA Number:	UN 1268
Packing Group:	II
Emergency Response Guide:	128

15. Regulatory Information

Environmental Regulations

SARA 302 Components:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

CWA / OPA: This product is classified as an oil under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Act of 1990. Discharge or spills which produce a visible sheen on either surface water, or in waterways/sewers which lead to surface water, must be reported to the National Response Center at 800-424-8802.

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Aspiration Hazard, Flammable (gases, aerosols, liquids, or solids), Skin Corrosion or Irritation, Specific Target Organ toxicity (single or repeated exposure)

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program. All the chemicals used in this product are TSCA listed.

Check with your local regulators to be sure all local regulations are met.

16. Other Information

Hazard ratings This information is intended solely for the use of individuals trained in the NFPA and/or HMIS systems.

NFPA: Health: 2 Flammability: 3 Reactivity: 0

HMIS: Health: 2 Flammability: 3 Reactivity: 0

RATING: 4-EXTREME 3-HIGH 2-MODERATE 1-SLIGHT 0-INSIGNIFICANT

Note:

For industrial use only. The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. Plastic Process Equipment, Inc. makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. Effects can be aggravated by other materials and/or this material may aggravate or add to the effects of other materials. This material may be released from gas, liquid, or solid materials made directly or indirectly from it. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards. Possession of an MSDS does not indicate that the possessor of the MSDS was a purchaser or user of the subject product. **Revision Date:** 5/3/2018