



SAFETY DATA SHEET

M-1®

According to OSHA-GHS (29 CFR 1910.1200 HCS 2012) (US)

1. Identification

Product identifierProduct name **M-1****Other means of identification:**

Synonyms No information available

Recommended use of the chemical and restrictions on use

Recommended use No information available

Recommended restrictions No information available

Manufacturer/Importer/Supplier/Distributor information:**Supplier** CHEM LINK INC., 353 East Lyons St., Schoolcraft, MI 49087**Emergency telephone** CHEMTREC: USA - 1-800-424-9300
International - (703) 527-3887

2. Hazard(s) identification

OSHA Regulatory Status

This material is considered as hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Classification of the substance or mixture**Physical Hazards** Not classified**Health Hazards** Serious eye damage/eye irritation Category 2A
Skin sensitization Category 1B**Environment Hazards** Not classified**GHS label elements****Signal word** WARNING**Hazard statements** Causes serious eye irritation.
May cause an allergic skin reaction.**Precautionary statements****Prevention** Wash hands thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.**Response** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see first aid instructions on label). Wash contaminated clothing before reuse. If exposed or concerned: Get medical advice/attention.**Storage** Store locked up.**Disposal** Dispose of contents/container in accordance with local/ regional/ national/ international regulations.

Hazard(s) not otherwise classified (HNOC) None Known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	Percentage % (wt/wt)
Aminoethyl aminopropyl trimethoxy silane	1760-24-3	0.5-3
Vinyltrimethoxysilane	2768-02-7	0.5-2
Dibutyltin oxide	818-08-6	0.25-0.75

4. First-aid measures

Description of first aid measures

Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
Skin contact	Remove contaminated clothing. If on skin, wash off immediately with soap and plenty of water for at least 15 minutes. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.
Most important symptoms/effects, both acute and delayed	No specific symptoms noted.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Thermal decomposition may release irritating, corrosive and/or toxic gases, vapors and fumes.
Special protective equipment and precautions for firefighters	Use water spray or fog for cooling exposed containers. Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing. See SDS Section 8 (Exposure Controls/Personal Protection).

6. Accidental release measures

Personal precautions, protective Ensure adequate ventilation. Evacuate unnecessary personnel. Avoid breathing

equipment and emergency procedures
Methods and materials for containment and cleaning up

vapor, mist, or spray. Avoid contact with skin, eyes and clothing. Wear appropriate personal protective equipment (PPE) as detailed in Section 8. Sweep up or vacuum up spillage and collect in suitable container for disposal. Dispose in accordance with regulations.

7. Handling and storage

Precautions for safe handling

Use with adequate ventilation. Keep away from heat, sparks and open flame. - No smoking. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Apply good hygienic practices.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

None of the components in this product is listed.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Methanol (CAS NO# 67-56-1)	PEL (TWA)	200 ppm
		260 mg/m ³
1,2-Ethylenediamine (CAS NO# 107-15-3)	PEL (TWA)	10 ppm
		25 mg/m ³
Tin, organic compounds (as Sn)	PEL (TWA)	0.1 mg/m ³

US. OSHA Table Z-2 (29 CFR 1910.1000)

None of the components in this product is listed.

US. OSHA Table Z-3 (29 CFR 1910.1000)

None of the components in this product is listed.

US. ACGIH Threshold Limit Values

Components	Type	Value
Methanol (CAS NO# 67-56-1)	TLV (TWA)	200 ppm (Skin; BEI)
	TLV (STEL)	250 ppm (Skin; BEI)
1,2-Ethylenediamine (CAS NO# 107-15-3)	TLV (TWA)	10 ppm (Skin)
Tin, organic compounds (as Sn)	TLV (TWA)	0.1 mg/m ³ (Skin)
	TLV (STEL)	0.2 mg/m ³ (Skin)

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Tin, organic compounds (as Sn)	REL (TWA)	0.1 mg/m ³ (except Cyhexatin) (Skin)

Ingredients with biological limit values

Components	Biological limit values	Duration
Methanol (CAS NO# 67-56-1)	15 mg/l (Urine)	Time: end of shift

Appropriate engineering controls	Provide eyewash station and safety shower. Provide adequate ventilation to minimize dust concentrations. Avoid all unnecessary exposure.
Respiratory equipment	Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.
Hand protection	Wear chemical-resistant gloves.
Eye protection	Wear safety glasses with side shields (or goggles).
Other protection	Wear suitable protective clothing.
General hygiene considerations	Wear suitable gloves and eye/face protection. . Keep away from food and drink. When using does not eat, drink or smoke. Wash hands before breaks and at the end of work.

9. Physical and chemical properties

Appearance	
Form	No information available.
Color	No information available.
Odor	No information available.
Odor threshold	No information available.
pH	No information available.
Melting point	No information available.
Freezing point	No information available.
Initial boiling point and boiling range	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	
Flammability limit – lower (%)	No information available.
Flammability limit – upper (%)	No information available.
Explosive limit - lower (%)	No information available.
Explosive limit - upper (%)	No information available.
Vapor pressure	No information available.
Vapor density	No information available.
Relative density	No information available.
Solubility(ies)	
Solubility (water)	No information available.
Partition coefficient (n-octanol/water)	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity	No information available.

10. Stability and reactivity

Reactivity	No specific reactivity hazards associated with this product.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Hazardous polymerization will not occur.
Conditions to avoid	None under recommended storage and handling condition.
Incompatible materials	No information available.
Hazardous decomposition products	No dangerous decomposition products known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	No information available.
Inhalation	No information available.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	No information available.
Delayed and immediate effects and also chronic effects from short- and long-term exposure	No information available.

Numerical measures of toxicity

Chemical Name	Oral LD ₅₀	Dermal LD ₅₀	Inhalation LC ₅₀
Aminoethyl aminopropyl trimethoxy silane (CAS NO# 1760-24-3)	2,995 mg/kg (rat)	> 2,000 mg/kg (rabbit)	No information available
Vinyltrimethoxysilane (CAS NO# 2768-02-7)	7.34 mL/kg (rat)	3,460 - 4,000 mg/kg (rabbit)	2773 ppm, 4h, vapor
Dibutyltin oxide (CAS NO# 818-08-6)	172 mg/kg (rat)	No information available	No information available

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	No information available.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No information available.
Carcinogenicity	IARC: occupational exposures to straight-run bitumens and their emissions during road paving are "possibly carcinogenic to humans" (Group 2B). Contains polycyclic aromatic compounds (PACs). Prolonged and/or repeated skin contact with certain PACs has been shown to cause skin cancer. Prolonged and/or repeated exposures by inhalation of certain PACs may also cause cancer of the lung and of other sites of the body.
Reproductive toxicity	May damage fertility or the unborn child.
Specific target organ toxicity - single exposure	No information available.
Specific target organ toxicity - repeated exposure	May causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	No information available.

12. Ecological information

Ecotoxicity

Numerical measures of toxicity

Chemical Name	Test	Species	Test Results
Aminoethyl aminopropyl trimethoxy silane (CAS# 1760-24-3)	Fish LC ₅₀	Bluegill (<i>Lepomis macrochirus</i>)	> 100 mg/L
	Crustacean EC ₅₀	Water flea (<i>Daphnia magna</i>)	87.4 mg/L, 48h
	Algae EC ₅₀	Green microalgae (<i>Pseudokirchneriella subcapitata</i>)	8.8 mg/L, 96h
	Algae NOEC	Green microalgae (<i>Pseudokirchneriella subcapitata</i>)	3.1 mg/L
Dibutyltin oxide (CAS# 818-08-6)	Fish LC ₅₀	Generic fish	1 mg/L, 48h
	Crustacean EC ₅₀	Water flea (<i>Daphnia magna</i>)	2 mg/L, 48h
	Algae EC ₅₀	Green algae (<i>Desmodesmus subspicatus</i>)	≥ 1.6 mg/L, 72h

Persistence and degradability

There are no data on the degradability of this product.

Bioaccumulative potential

No data available on bioaccumulation.

Mobility in soil

No data available.

Other adverse effects

Not available.

13. Disposal considerations

Disposal instructions

Dispose of contents/container in accordance with local/ regional/ national/ international regulations.

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated	Not regulated	Not regulated
UN proper shipping name	Not dangerous goods	Not dangerous goods	Not dangerous goods
Transport hazard class(es)	Not regulated	Not regulated	Not regulated
Packing group	Not regulated	Not regulated	Not regulated
Environmental hazards	No	No	No
Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code Notes	Not applicable.		
Special Precaution(s)	Not applicable.		

15. Regulatory information

US federal regulations

This product is "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Some of the components are on the U.S. EPA TSCA Inventory List.

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

None of the ingredients are listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

None of the ingredients are listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Methanol (CAS NO# 67-56-1)	Listed
1,2-Ethylenediamine (CAS NO# 107-15-3)	Listed

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

Eye irritation, Skin sensitization, Reproductive toxicity, Specific target organ toxicity- Repeated Exposure.

SARA 313 (TRI reporting)

Methanol (CAS NO# 67-56-1)	Listed
----------------------------	--------

Other federal regulations

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Safe Drinking Water Act (SDWA)

US State regulations.**US. New Jersey Worker and Community Right-to-Know Act**

Methanol (CAS NO# 67-56-1)	Listed
----------------------------	--------

US. Pennsylvania Worker and Community Right-to-Know Law

Methanol (CAS NO# 67-56-1)	Listed
----------------------------	--------

US. California Proposition 65**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT):**

This product contains no chemicals known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

16. Other information

Revision date	10/14/2020
Version #	5
References	ACGIH: Documentation of the Threshold Limit Values and Biological Exposure indices ECHA: European Chemicals Agency IARC: International Agency for Research on Cancer OECD: Organization for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.