



Section 1. Identification

1.1. Product identifier

Product Identity	Fernamine-M
Alternate Names	Fernamine-M

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use	Proprietary Blend
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1.3. Details of the supplier of the safety data sheet

Company Name	Silver Fern Chemical, Inc. 2226 Queen Anne Avenue North Seattle, WA 98109 USA Customer Service: 1-866-282-3384 / info@silverfernchemical.com Website - www.silverfernchemical.com
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Emergency 24 hour Emergency Telephone No.	Emergency telephone number Infotrac: 1-800-535-5053; Outside USA & Canada +1- 352-323-3500
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Section 2. Hazard(s) identification

2.1. Classification of the substance or mixture

Acute Tox. 4;H302	Harmful if swallowed.
Acute Tox. 4;H312	Harmful in contact with skin.
Acute Tox. 4;H332	Harmful if inhaled.
Skin Corr. 1;H314	Causes severe skin burns and eye damage.
Eye Dam. 1;H318	Causes serious eye damage.
STOT SE 3;H335	May cause respiratory irritation.
Aquatic Chronic 3;H412	Harmful to aquatic life with long lasting effects.

2.2. Label elements



Danger

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

[Prevention]

P233 Keep container tightly closed.
P260 Do not breathe dust, fume, mist, vapors, or spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves, protective clothing, eye protection, face protection.

[Response]

P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P301+312 IF SWALLOWED: Call a POISON CENTER, doctor, or physician if you feel unwell.
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P303+361+353 IF ON SKIN (or hair): Remove, take off immediately all contaminated clothing. Rinse skin with water, shower.
P304+340 IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER, doctor, or physician.
P312 Call a POISON CENTER, doctor, or physician if you feel unwell.
P322 Specific measures (see information on this label).
P362 Take off contaminated clothing and wash before reuse.



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P363 Wash contaminated clothing before reuse.

[Storage]

P403+233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

[Disposal]

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

Section 3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Ethanolamine CAS Number: 141-43-5	>85%	Acute Tox. 4;H332 Acute Tox. 4;H312 Acute Tox. 4;H302 Skin Corr. 1B;H314 STOT SE 3;H335 > 5% Aquatic Chronic 3;H412	----
Proprietary Blend CAS Number: Proprietary	<15%	Acute Tox. 4;H302 Skin Corr. 1;H314 Acute Tox. 4;H312 Acute Tox. 4;H332 STOT SE 3;H335	----

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

*PBT/vPvB - PBT-substance or vPvB-substance.

The full texts of the phrases are shown in Section 16.

Section 4. First aid measures

4.1. Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention.
Never give anything by mouth to an unconscious person.

Inhalation Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eyes Rinse with plenty of clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion Rinse mouth with water. If symptoms persist, seek medical attention.



4.2. Most important symptoms and effects, both acute and delayed

Overview Immediate first aid treatment reduces the health effects of this substance. In all cases, immediately call a poison center or doctor/physician.

Inhalation Adverse symptoms may include respiratory tract irritation and coughing.

Eyes Adverse symptoms may include pain or irritation, watering, and redness.

Skin Adverse symptoms may include irritation and redness.

Ingestion Adverse symptoms may include nausea and vomiting.

Section 5. Fire-fighting measures

5.1. Extinguishing media

This product is non-flammable and will not support combustion.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: No hazardous decomposition data available.

Keep container tightly closed.

Do not breathe dust, fume, mist, vapors, or spray.

Not considered to be an explosion hazard.

5.3. Advice for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

5.4. Hazardous Combustion Products

Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to nitrogen oxides, carbon monoxide, and carbon dioxide.

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Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures



Put on appropriate personal protective equipment (see section 8).
Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.
Wear protective gloves/protective clothing/eye protection/face protection.

6.2. Environmental precautions

WATER SPILL: Avoid dispersal of spilled material and runoff and contact with waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers or waterways).

LAND SPILL: Avoid dispersal of spilled material and runoff and contact with soil. Inform the relevant authorities if the product has caused environmental pollution (soil).

6.3. Methods and material for containment and cleaning up

SMALL SPILL: Contain spilled material if possible. Absorb with materials such as: Non-combustible material. Collect in suitable and properly labeled containers.

LARGE SPILL: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements, or confined areas. Wash spillages into an effluent treatment plant or proceed as follows.
Contain and collect spillage with non-combustible absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

7.1. Precautions for safe handling

Do not get in eyes. Do not swallow. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. See section 8, Exposure Controls and Personal Protection.

7.2. Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area in original container protected from sunlight in a dry, cool, and well-ventilated and approved area away from incompatible materials. Keep container closed to prevent drying out. Move container away from oxidizing materials. Use appropriate containment to avoid environmental contamination.

Check section 2.2 (GHS Label Elements) for further details. - [Storage]

Storage Temperature: Store in a cool place below (120) F (49) C.



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Shelf Life: One Year

General Procedures: Use only in a well-ventilated area.

7.3. Specific end use(s)

No available information

Section 8. Exposure controls / personal protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
141-43-5	Ethanolamine	OSHA	TWA 3 ppm (6 mg/m ³)
		ACGIH	TWA: 3 ppm STEL: 6 ppm
		NIOSH	TWA 3 ppm (8 mg/m ³) STEL: 6 ppm (15 mg/m ³)
Proprietary	Proprietary Blend	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit

8.2. Exposure controls

- Respiratory** Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.
- Eyes** Wear safety glasses with side shields to protect the eyes. An eye wash station is suggested as a good workplace practice.
- Skin** Chemical resistant clothing such as coveralls/apron and boots should be worn. Chemical impervious gloves required.
- Engineering Controls** Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only adequate ventilation. Local exhaust ventilation may be necessary for some operations.
- Other Work Practices** Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Check section 2.2 (GHS Label Elements) for further details.

Section 9. Physical and chemical properties



9.1. Information on basic physical and chemical properties

Appearance	Clear pale/yellow liquid
Odor	Amine-like odor
Odor threshold	Not determined since harmful by inhalation.
pH	>12
Melting point / freezing point	-13.1°C (8.4°F)
Initial boiling point and boiling range	100°C (212° F) to 170° C (338° F)
Flash Point	104°C (219° F) Tag Closed-Cup (ASTM D56)
Evaporation rate (Ether = 1)	No available information
Flammability (solid, gas)	FLAMMABLE LIMITS: 5% to 17%
Upper/lower flammability or explosive limits	Lower Explosive Limit: No available information Upper Explosive Limit: No available information
Vapor pressure (Pa)	< 0.5 mbar
Vapor Density	Not yet Determined
Relative Density(SPECIFIC GRAVITY)	1.03 at 20 °C (68° F)
Solubility in Water	Completely Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	No available information
Auto-ignition temperature	425°C (797°F)
Decomposition temperature	No available information
Viscosity (cSt)	#1: 23.8 6 mPa.s a t 20°C (68° F)
VOC Content	None
Oxidising properties	No available information
Explosive properties	This product is no n-flammable and will not support combustion.
Density	8.57 at 20 °C (68° F)
Thermal decomposition	This product will not undergo self-decomposition.

9.2. Other information

No other relevant information.

Section 10. Stability and reactivity

10.1. Reactivity

Normally reactive if handled properly.



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10.2. Chemical stability

Stable under ordinary conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions when stored and handled according to instructions.

10.4. Conditions to avoid

Avoid high temperatures and contact with incompatible material

10.5. Incompatible materials

Any acidic material, ammonia, urea, oxidizable materials and metals such as nickel, copper, tin, aluminum and iron.

Slightly reactive with acids.

10.6. Hazardous decomposition products

Carbon oxides, nitrogen oxides, nitrous gases.

Section 11. Toxicological information

Acute toxicity

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Ethanolamine - (141-43-5)	1,515.00, Rat - Category: 4	2,504.00, Rabbit - Category: 5	No data available.	No data available.	No data available.
Proprietary Blend - (Proprietary)	No data available.	No data available.	No data available.	No data available.	No data available.

Carcinogen Data

CAS No.	Ingredient	Source	Value
141-43-5	Ethanolamine	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
		ACGIH	No Established Limit
Proprietary	Proprietary Blend	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
		ACGIH	No Established Limit



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Classification	Category	Hazard Description
Acute toxicity (oral)	4	Harmful if swallowed.
Acute toxicity (dermal)	4	Harmful in contact with skin.
Acute toxicity (inhalation)	4	Harmful if inhaled.
Skin corrosion/irritation	1	Causes severe skin burns and eye damage.
Serious eye damage/irritation	1	Causes serious eye damage.
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	3	May cause respiratory irritation.
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

Section 12. Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/L	48 hr EC50 crustacea, mg/L	ErC50 algae, mg/L
Ethanolamine - (141-43-5)	349.00, Cyprinus carpio	65.00, Daphnia magna	2.80, Pseudokirchneriella subcapitata
Proprietary Blend - (Proprietary)	No data available.	No data available.	No data available.

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

No available information

12.4. Mobility in soil

No available information

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No available information



Section 13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

Section 14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	UN1760	UN1760	UN1760
14.2. UN proper shipping name	UN1760, Corrosive liquids, n.o.s. (Ethanolamine), 8, III	Corrosive liquids, n.o.s. (CHEMICAL NAME)	Corrosive liquids, n.o.s. (CHEMICAL NAME)
14.3. Transport hazard class(es)	DOT Hazard Class: 8 Sub Class: Not Applicable	IMDG: 8 Sub Class: Not Applicable	Air Class: 8 Sub Class: Not Applicable
14.4. Packing group	III	III	III

14.5. Environmental hazards

Marine Pollutant: No;

14.6. Special precautions for user

No available information

Section 15. Regulatory information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Inventory - United States - Section 8(b) Inventory (TSCA):

Ethanolamine (Commercial Status Designation: ACTIVE)

•Active - indicates commercial status designation of active



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- E - indicates a substance that is the subject of a Section 5(e) Consent Order under TSCA.
- F - indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - indicates a polymeric substance containing no free-radical initiator in its Inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - indicates a commenced Premanufacture Notice (PMN) substance.
- R - indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - indicates a substance that is identified in a final Significant New Uses Rule.
- SP - indicates a substance that is identified in a proposed Significant New Uses Rule.
- T - indicates a substance that is the subject of a final Section 4 test rule under TSCA.
- UVCB Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials
- XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).
- Y1 - indicates a polymer that has a number-average molecular weight greater than 1,000 and that was exempt under the 1984 polymer exemption rule.
- Y2 - indicates a polymer that is a polyester and that was exempt under the 1984 polymer exemption rule.

EPCRA 302 Extremely Hazardous:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.



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Proposition 65 Label Warning:

This product contains no chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Mass RTK Substances (>1%) :

Ethanolamine

New Jersey RTK Substances (>1%):

Ethanolamine

Pennsylvania RTK Substances (>1%):

Ethanolamine

OSHA Process Safety Management Standard Highly Hazardous Chemicals, Toxics and Reactives:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

US EPA List of Regulated Substances under the Risk Management Plan (RMP) Program:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

US EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) under the Minimum Risk Exemption:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

U.S. - DEA List II or Essential Chemicals:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

U.S. - DEA - Exempt Chemical Mixtures - List 1 and 2:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

US DHS Chemical Facility Anti-Terrorism Standards (CFATS):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.



Section 16. Other information

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DISCLAIMER OF RESPONSIBILITY

The information on this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume damage or expense arising out of or in any way responsibility and expressly disclaim liability for loss, connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable.

The full text of the phrases appearing in section 3 is:

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

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