



Silver Fern Chemical, Inc.
Safety Data Sheet
Glyoxal 40

Revision Date: 08/07/2025

Section 1. Identification

Product Identity Glyoxal 40
Other means of identification Biformyl; Diformyl; Ethanedial; 1,2-Ethanedione; Glyoxylaldehyde; Oxal; Oxalaldehyde

Relevant identified uses of the substance or mixture.

Industrial Applications

Details of the supplier of the safety data sheet

Company Name Silver Fern Chemical, Inc.
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Santa Barbara, CA 93101 USA
Customer Service: 1-866-282-3384
info@silverfernchemical.com
Website - www.silverfernchemical.com

24-hour Emergency Telephone No.

Infotrac: 1-800-535-5053;
Outside USA & Canada +1-352-323-3500

Section 2. Hazard(s) identification

Classification of the substance or mixture under OSHA's Hazard Communication Standard (1910.1200) revised 2024 (GHS revision 7)

Skin corrosion/irritation category 2;H315	Causes skin irritation.
Serious eye damage / eye irritation, category 2;H319	Causes serious eye irritation.
Skin sensitizer category 1;H317	May cause an allergic skin reaction.
Germ cell mutagenicity, category 2;H341	Suspected of causing genetic defects.



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Label elements



Warning

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.

[Prevention]

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust, fume, gas, mist, vapors, spray.
P264 Wash thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves, eye protection, and face protection.

[Response]

P302+352 IF ON SKIN: Wash with plenty of soap and water.
P304+312 IF INHALED: Call a poison center or doctor or physician if you feel unwell.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+313 IF exposed or concerned: Get medical advice or attention.
P333+313 If skin irritation or a rash occurs: Get medical advice or attention.
P337+313 If eye irritation persists: Get medical advice or attention.
P362+364 Take off contaminated clothing and wash it before reuse.

[Storage]

P405 Store locked up.

[Disposal]

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



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Other hazards

This product contains no PBT/vPvB/vPvM chemicals.

This product contains no endocrine disrupting chemicals.

Does not contain component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS) per the Organisation for Economic Co-operation and Development (OECD) list of Per- and Polyfluoroalkyl Substances (PFASs).

Section 3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the OSHA's Hazard Communication Standard (1910.1200) revised 2024 (GHS revision 7).

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Ethanedial CAS Number: 107-22-2 Synonyms: Glyoxal	40%	Germ cell mutagenicity, category 2;H341 Acute toxicity(inhalation), category 4;H332 Serious eye damage / eye irritation, category 2;H319 Skin corrosion/irritation category 2;H315 Skin sensitizer category 1;H317	No data available
Water CAS Number : 7732-18-5	60%		

The actual concentration or concentration range is withheld as a trade secret.

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

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

Section 4. First aid measures

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.



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Ingestion If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Overview No specific symptom data available.
Reproductive or genetic defect hazard. Treat symptomatically. See section 2 for further details.

Eyes Causes serious eye irritation.

Skin May cause an allergic skin reaction. Causes skin irritation.

Section 5. Fire-fighting measures

Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO₂, powder, water spray.
Unsuitable extinguishing media: Do not use; water jet.

Special hazards arising from the substance or mixture

Hazardous decomposition: When heated, emits highly toxic and corrosive fumes of hydrogen compounds and hydrogen gas.
Avoid breathing dust, fume, gas, mist, vapors, spray.

Advice for fire-fighters

As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full-face piece and protective clothing. Persons without respiratory protection should leave area. Wear SCBA during clean-up immediately after fire. No smoking.

ERG Guide No.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures



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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.

Environmental precautions

Do not allow spills to enter drains or waterways.

Methods and material for containment and cleaning up

Ventilate the area and avoid breathing vapors. Take the personal protective measures listed in section 8.
Contain and absorb spillage with non-combustible materials e.g. sand, earth, and vermiculite. Place in closed containers outside buildings and dispose of according to the Waste Regulations.
Contain, dilute cautiously with water, and neutralize with soda ash or lime.

Section 7. Handling and storage

Precautions for safe handling

Handle containers carefully to prevent damage and spillage. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Avoid breathing vapor or mist. See section 2 for further details. - [Prevention]

Conditions for safe storage, including any incompatibilities

Incompatible materials: Metal, glass, stoneware, alkali and strong concentrated acids. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Do NOT freeze.
See section 2 for further details. - [Storage]

Specific end use(s)

No available information

Section 8. Exposure controls / personal protection

Control parameters



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CAS No.	Ingredient	Source	Value
107-22-2	Ethanedial	OSHA	No Established Limit
		ACGIH	0.1 mg/m ³ (IFV) Inhalable Fraction and Vapor
		NIOSH	No Established Limit

**Exposure
controls**

Respiratory	Use NIOSH/MSHA approved respirator, following manufacturer's recommendations when concentrations exceed permissible exposure limits.
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	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details.

Section 9. Physical and chemical properties

Information on basic physical and chemical properties

Physical State	Liquid
Color	Clear
Odor	Mild, sour
Odor threshold	No available information
Melting point / freezing point	- 14 °C
Initial boiling point and boiling range	104°C
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: No available information



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	Upper Explosive Limit: No available information
Flash Point	220°C
Auto-ignition temperature	285°C
Decomposition temperature	No available information
pH	1.8~2.5
Viscosity (cSt)	No available information
Solubility in Water	Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	No available information
Vapor pressure (Pa)	18 mmHg (20°C)
Relative Density	1.265 g/ml at 25 °C
Vapor Density	0.7 (air=1)
Evaporation rate (Ether = 1)	No available information
Oxidising properties	No available information
Explosive properties	No available information
Molecular Weight	58.04

Other information

No other relevant information.

Section 10. Stability and reactivity

Reactivity

Hazardous polymerization will occur.

Chemical stability

Stable: Stable under normal temperatures and pressures. May polymerize.

Possibility of hazardous reactions

No available information

Conditions to avoid

Excessive heat and open flame. Do not freeze, extreme temperatures, metals (slowly corrodes).

Incompatible materials

Metal, glass, stoneware, alkali and strong concentrated acids. Strong oxidizing agents, strong bases.

Hazardous decomposition products

When heated, emits highly toxic and corrosive fumes of hydrogen compounds and hydrogen gas. Formaldehyde, Carbon monoxide, Carbon dioxide.



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Hazardous polymerization

Hazardous Polymerization: May occur.

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
Ethanedial - (107-22-2)	3,300.00, Rat - Category: 5	>2,000.00, Rabbit - Category: 5	No data available.	No data available.	No data available.

Carcinogen Data

CAS No.	Ingredient	Source	Value
107-22-2	Ethanedial	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No;
		ACGIH	A4

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	2	Causes skin irritation.
Serious eye damage/irritation	2	Causes serious eye irritation.
Respiratory sensitization	---	Not Applicable
Skin sensitization	1	May cause an allergic skin reaction.
Germ cell mutagenicity	2	Suspected of causing genetic defects.
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable



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Possible routes of entry: No available information

Symptoms and effects, both acute and delayed:

No specific symptom data available.

Reproductive or genetic defect hazard. Treat symptomatically.

Eyes Causes serious eye irritation.

Skin May cause an allergic skin reaction. Causes skin irritation.

Section 12. Ecological information

Toxicity

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
Ethanedial - (107-22-2)	201.00, Fish	132.00, Daphnia magna	50.00, Algae

Persistence and degradability

There is no data available on the preparation itself.

Bioaccumulative potential

No available information

Mobility in soil

No available information

Results of PBT and vPvB assessment

This product contains no PBT/vPvB/vPvM chemicals.

Other adverse effects

No available information

Section 13. Disposal considerations

Waste treatment methods

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



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Section 14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
UN number	Not Regulated	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated	Not Regulated
Transport hazard class(es)	Class: Not Applicable Sub Class: Not Applicable	Class: Not Applicable Sub Class: Not Applicable	Class: Not Applicable Sub Class: Not Applicable
Packing group	Not Applicable	Not Applicable	Not Applicable

Environmental hazards

IMDG Marine Pollutant: No;
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.

Classification of the substance or mixture under OSHA's Hazard Communication Standard (1910.1200) revised 2024 (GHS revision 7)

Toxic Substance Control Act (TSCA)

CAS Number	Ingredient	Toxic Substance Control Act (TSCA)	Comments	Status
0000107-22-2	Ethanedial	Yes		ACTIVE

The following flags are used:

- Active - indicates commercial status designation of active
- 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.



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- 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.

Proposition 65 Label Warning:



WARNING: This product can expose you to chemicals including [Formaldehyde], which is known to the State of California to cause cancer, and [Ethylene Glycol] which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Mass RTK Substances (>1%) :
(No Product Ingredients Listed)



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New Jersey RTK Substances (>1%):

Ethanedial (Glyoxal)

Pennsylvania RTK Substances (>1%):

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

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.

EPCRA 311/312 Chemicals and RQs:

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:

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H341 Suspected of causing genetic defects.

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