

**Revision Date: 05/30/2025** 

#### Section 1. Identification

Product Identity Maleic Anhydride

Other means of identification Furan-2,5-dione ,2,5-Furandione

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

Laboratory chemicals, Synthesis of substances

Details of the supplier of the safety data sheet

Company Name Silver Fern Chemical, Inc.

121 W. De La Guerra Street, Suite B Santa Barbara, CA 93101 USA Customer Service: 1-866-282-3384 /

info@silverfernchemical.com

Website - www.silverfernchemical.com

24 hour Emergency telephone number

Emergency Infotrac: 1-800-535-5053

Telephone No. 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)

Acute toxicity(oral), category 4;H302 Harmful if swallowed.

Skin corrosion/irritation category 1;H314 Causes severe skin burns and eye

damage.

Serious eye damage / eye irritation, category 1;H318 Causes serious eye damage.



**Revision Date: 05/30/2025** 

Skin sensitizer category 1;H317

May cause an allergic skin

reaction.

Respiratory sensitization, category 1;H334

May cause allergy or asthma

symptoms or breathing difficulties

if inhaled.

Specific target organ toxicity, Single exposure category

1;H370

Causes damage to organs.

Specific target organ toxicity, repeated exposure

category 1;H372

Causes damage to organs through prolonged or repeated exposure.

#### Label elements







**Danger** 

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H370 Causes damage to organs.

H372 Causes damage to organs through prolonged or repeated exposure.

#### [Prevention]

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.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves, protective clothing, eye protection, face protection.

P284 In case of inadequate ventilation, wear respiratory protection.

## [Response]

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 person 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.

P308+311 If exposed or concerned: Call a POISON CENTER, doctor or physician.

P310 Immediately call a POISON CENTER, doctor or physician.



Revision Date: 05/30/2025

P314 Get Medical advice or attention if you feel unwell.

P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P333+313 If skin irritation or a rash occurs: Get medical advice or attention.

P342+311 If experiencing respiratory symptoms: Call a POISON CENTER, doctor or physician.

P362+364 Take off contaminated clothing and wash it before reuse.

P363 Wash contaminated clothing before reuse.

## [Storage]

P405 Store locked up.

## [Disposal]

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

#### 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 US or Canadian regulations.

## 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
Furandione	<=100	Acute toxicity(oral), category 4;H302	
CAS Number: 108-31-6		Respiratory sensitization, category 1;H334	No doto
Synonyms: No available		Skin sensitizer category 1;H317	No data
information		Skin corrosion/irritation category 1;H314	available
		Serious eye damage / eye irritation, category 1;H318	
		Specific target organ toxicity, Single exposure category 1;H370	
		Specific target organ toxicity, repeated exposure category	
		1;H372	

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

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

<sup>\*</sup>PBT/vPvB - PBT, vPvM or vPvB-substance.



**Revision Date: 05/30/2025** 

#### 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.

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.

No chronic toxicity or long term toxicity information available. Treat

symptomatically. See section 2 for further details.

Inhalation Causes damage to organs. May cause allergy or asthma symptoms or breathing

difficulties if inhaled.

**Eyes** Causes serious eye damage.

**Skin** May cause an allergic skin reaction. Causes severe skin burns and eye damage.

**Ingestion** Harmful if swallowed.

#### Section 5. Fire-fighting measures

## **Extinguishing media**

Recommended extinguishing media; alcohol resistant foam, CO<sub>2</sub>, powder, water spray. Unsuitable extinguishing media: Do not use; water jet.



**Revision Date: 05/30/2025** 

## Special hazards arising from the substance or mixture

Hazardous decomposition: No hazardous decomposition data available. Do not breathe dust, fume, mist, vapors or 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. 156

#### Section 6. Accidental release measures

#### 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.

#### **Environmental precautions**

Do not allow spills to enter drains or waterways.

#### Methods and material for containment and cleaning up

Sweep up or pick up.

#### Section 7. Handling and storage

#### Precautions for safe handling

Handle containers carefully to prevent damage and spillage. See section 2 for further details. - [Prevention]



**Revision Date: 05/30/2025** 

## Conditions for safe storage, including any incompatibilities

Incompatible materials: No available information

See section 2 for further details. - [Storage]

## Specific end use(s)

No available information

## Section 8. Exposure controls / personal protection

#### **Control parameters**

## **Exposure Limits**

CAS No.	Ingredient	Source	Value
108-31-6	Furandione	OSHA	0.25 ppm, 1 mg/m <sup>3</sup>
		ACGIH	0.01 mg/m³ (IFV) Inhalable Fraction and Vapor
		NIOSH	TWA 1 mg/m³(0.25 ppm)

Exposure controls

**Respiratory** If workers are exposed to concentrations above the exposure limit they must

use the appropriate, certified respirators.

**Eyes** Protective safety glasses recommended

**Skin** Avoid skin contact. Protective gloves recommended.

**Engineering** Provide adequate ventilation. Where reasonably practicable this should be

**Controls** 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 Use good personal hygiene practices. Wash hands before eating, drinking,

**Practices** smoking or using toilet. Promptly remove soiled clothing and wash

thoroughly before reuse.

See section 2 for further details.



**Revision Date: 05/30/2025** 

#### Section 9. Physical and chemical properties

## Information on basic physical and chemical properties

Physical State Solid

**Color** No available information

Odor Characteristic Melting point / freezing point 53 - 58 °C

Initial boiling point and boiling 200.1 °C at 1,014 hPa

range

Flammability (solid, gas) Not Applicable

**Upper/lower flammability or Lower Explosive Limit:**non explosive

explosive limits

**Upper Explosive Limit:**non explosive

Flash Point Substance is a solid at 20 °C. The flash point of the

No available information

No available information

molten substance is 100 - 110 °C (cc).

Auto-ignition temperature
Decomposition temperature

pH No available informationViscosity (cSt) not relevant (solid matter)

**Solubility in Water** Water solubility 400 g/l at 20 °C

Partition coefficient n- -2.61 at 20 °C

octanol/water (Log Kow)

Vapor pressure (Pa)15.1 Pa at 22 °CRelative Density1.48 g/cm3 at 20 °C

Vapor Density No available information

Particle Characteristics ---

**Evaporation rate (Ether = 1)** No available information

VOC Content VOC content 100 %

Oxidising propertiesNo available informationExplosive propertiesNo available information

Solids content 100%

#### Other information

No other relevant information.



**Revision Date: 05/30/2025** 

## Section 10. Stability and reactivity

## Reactivity

Hazardous Polymerization will not occur.

## Chemical stability

Stable under normal circumstances.

## Possibility of hazardous reactions

No available information

#### Conditions to avoid

Avoid high temperatures and contact with incompatible material

## Incompatible materials

Strong oxidizing agents, Strong acids, Strong bases, Strong reducing agents,

Alkali metals, Amines

## **Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides

## 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
Furandione - (108-31-6)	400.00, Rat - Category: 4	No data available.	No data available.	No data available.	No data available.

## **Carcinogen Data**

CAS No.	Ingredient	Source	Value
108-31-6	Furandione	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No;
		ACGIH	A4



Revision Date: 05/30/2025

Classification	Category	Hazard Description
Acute toxicity (oral)	4	Harmful if swallowed.
Acute toxicity (dermal)		Not Applicable
Acute toxicity (inhalation)		Not Applicable
Skin corrosion/irritation	1	Causes severe skin burns and eye damage.
Serious eye	1	Causes serious eye damage.
damage/irritation		
Respiratory sensitization	1	May cause allergy or asthma symptoms or breathing
		difficulties if inhaled.
Skin sensitization	1	May cause an allergic skin reaction.
Germ cell mutagenicity		Not Applicable
Carcinogenicity		Not Applicable
Reproductive toxicity		Not Applicable
STOT-single exposure	1	Causes damage to organs.
STOT-repeated exposure	1	Causes damage to organs through prolonged or
		repeated exposure.
Aspiration hazard		Not Applicable

Possible routes of entry: No available information

## Symptoms and effects, both acute and delayed:

No specific symptom data available.

No chronic toxicity or long term toxicity information available. Treat symptomatically.

**Eyes** Causes serious eye damage.

**Skin** May cause an allergic skin reaction. Causes severe skin burns and eye damage.

**Ingestion** Harmful if swallowed.

## **Section 12. Ecological information**

## **Toxicity**

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



#### **Revision Date: 05/30/2025**

## **Aquatic Ecotoxicity**

Ingredient	96 hr LC50 fish,	48 hr EC50 crustacea,	ErC50 algae,
	mg/L	mg/L	mg/L
Furandione - (108-31-6)	230.00,	No data available.	No data available.

## 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.

## **Section 14. Transport information**

	<b>DOT (Domestic Surface</b>	IMO / IMDG (Ocean	ICAO/IATA
	Transportation)	Transportation)	
UN number	UN2215	UN2215	UN2215
UN proper	UN2215, Maleic anhydride,	Maleic anhydride, molten	Maleic anhydride,
shipping name	molten,8,III		molten
<b>Transport hazard</b>	Class:8	Class:8	Class:8
class(es)	<b>Sub Class:</b> Not Applicable	Sub Class:Not	Sub Class:Not
		Applicable	Applicable
Packing group	III	III	III



**Revision Date: 05/30/2025** 

#### **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
108-31-6	Furandione	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.
- •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



Revision Date: 05/30/2025

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:**

Furandione

## **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:**

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%):

Furandione



**Revision Date: 05/30/2025** 

## **New Jersey RTK Substances (>1%):**

**Furandione** 

## Pennsylvania RTK Substances (>1%):

**Furandione** 

# 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 (lbs):

Furandione (5,000.00)



**Revision Date: 05/30/2025** 

#### **Section 16. Other information**

**Revision Date** 

05/30/2025

#### **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.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H370 Causes damage to organs.

H372 Causes damage to organs through prolonged or repeated exposure.

#### **End of Document**