



Material Safety Data Sheet

Version 3.0

Release Date: 9/7/2023

1. PRODUCT AND COMPANY IDENTIFICATION

| | |
|-----------------|---|
| Product name | 3,5-difluoro-4-hydroxybenzylidene imidazolinone-2-oxime (DHFO) |
| Product number | 500 – 1 mg |
| Product use | For laboratory research purpose |
| Supplier | Lucerna, Inc. 760 Parkside Avenue Suite 327C Brooklyn, NY 11226 USA |
| Manufacturer | Lucerna, Inc. 760 Parkside Avenue Suite 327C Brooklyn, NY 11226 USA |
| Telephone | +1 855-582-3762 |
| Fax | +1 646-792-4724 |
| Emergency phone | (646) 504-5697 (For both supplier and manufacturer) |

2. COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|------------------|--|
| Synonyms | DFHO |
| Formula | $C_{12}H_9F_2N_3O_3$ |
| Molecular weight | 281.2 g/mol |
| CAS number | 1420815-34-4 |
| CAS name | (E)-4-((Z)-3,5-difluoro-4-hydroxybenzylidene)-1-methyl-5-oxo-4,5-dihydro-1H-imidazole-2-carbaldehyde oxime |

3. HAZARDS IDENTIFICATION

Emergency Overview

| | |
|--------------|-----------------------|
| OSHA hazards | No known OSHA hazards |
|--------------|-----------------------|

HMIS Classification

| | |
|------------------|---|
| Health hazard | 1 |
| Flammability | 1 |
| Physical hazards | 1 |

NFPA Rating

Lucerna, Inc.™

www.lucernatechnologies.com

| | |
|-------------------|---|
| Health hazard | 1 |
| Fire | 1 |
| Reactivity hazard | 1 |

Potential Health Effects

| | |
|------------|---|
| Inhalation | May be harmful if inhaled. May cause respiratory tract irritation. |
| Skin | May be harmful if absorbed through skin. May cause skin irritation. |
| Eyes | May cause eye irritation. |
| Ingestion | May be harmful if swallowed. |

4. FIRST AID MEASURES

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a doctor.

In case of skin contact

Wash off with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes, and wash before reuse. Consult a doctor.

In case of eye contact

Flush eyes with plenty of water for at least 15 minutes. Consult a doctor.

If swallowed

Rinse mouth with plenty of water. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a doctor.

5. FIRE-FIGHTING MEASURES

Flammable properties

| | |
|----------------------|-------------------|
| Flash point | No data available |
| Ignition temperature | No data available |

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

In combustion, may emit toxic fumes.

Special protective equipment for fire-fighters

Wear suitable protective clothing to prevent contact with skin and eyes. Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Do not take action without suitable protective clothing. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Cover spillage with suitable absorbent materials. Sweep up material and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

Provide appropriate exhaust ventilation at places where dust and aerosols are formed. Avoid inhalation, contact with eyes, skin, and clothing. Keep away from sources of ignition, Avoid prolonged or repeated exposure.

Storage

Keep container tightly closed in a dry and well-ventilated place. Keep away from direct sunlight. Keep container tightly sealed until ready to use. Recommended storage temperature: -20°C.

Specific end uses

Use in a laboratory fume hood where possible.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Use appropriate chemical resistant gloves. Gloves should be inspected before use. Wash and dry hands thoroughly after handling.

Eye protection

Use appropriate safety glasses.

Body protection

Wear appropriate protective clothing.

Hygiene measures

General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

| | |
|-------|--------------------|
| Form | Crystalline powder |
| Color | Yellow |
| Odor | Odorless |

Safety data

| | |
|---------------|-------------------|
| pH | Not applicable |
| Melting point | No data available |
| Boiling point | No data available |

Lucerna, Inc.™

www.lucernatechnologies.com

| | |
|-----------------------|------------------------|
| Flash point | No data available |
| Ignition temperature | No data available |
| Lower explosion limit | No data available |
| Solubility | Soluble at 100 mM DMSO |
| Upper explosion limit | No data available |

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended transport or storage conditions.

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Avoid heat and moisture.

Materials to avoid

Strong acids/alkalis and oxidizing/reducing agents.

Hazardous decomposition products

Hazardous decomposition products may form under fire conditions. No known decomposition information.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

No data available

Irritation and corrosion

Classification criteria not met based on available data.

Germ cell mutagenicity

Classification criteria not met based on available data.

Carcinogenicity

Classification criteria not met based on available data.

Reproductive toxicity

Classification criteria not met based on available data.

Specific target organ toxicity – single exposure

Classification criteria not met based on available data.

Specific target organ toxicity – repeated exposure

Classification criteria not met based on available data.

Aspiration hazard

Classification criteria not met based on available data.

Signs and symptoms of exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential health effects

| | |
|---------------------------|---|
| Inhalation | May be harmful if inhaled. May cause respiratory tract irritation. |
| Skin | May be harmful if absorbed through skin. May cause skin irritation. |
| Eyes | May cause eye irritation. |
| Ingestion | May be harmful if swallowed. |
| Delayed/immediate effects | No known symptoms. |

12. ECOLOGICAL INFORMATION

Persistence and degradability

No data available

Ecotoxicity effects

No data available

Further information on ecology

No data available

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations.

Contaminated packaging

Dispose of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with all federal, state, and local environmental regulations.

14. TRANSPORT INFORMATION

Classified according to the criteria of the UN Model Regulations as reflected in the IMDG Code, ADR, RID, DOT, and IATA.

UN-Number

Does not meet the criteria for classification as dangerous goods.

UN proper shipping name

Does not meet the criteria for classification as dangerous goods.

Transport hazard class

Does not meet the criteria for classification as dangerous goods.

Packaging group

Does not meet the criteria for classification as dangerous goods.

Environmental hazards

Does not meet the criteria for classification as dangerous goods.

Special precautions for users

No data available

15. REGULATORY INFORMATION

OSHA hazards

No known OSHA hazards

DSL status

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

(*E*)-4-((*Z*)-3,5-difluoro-4-hydroxybenzylidene)-1-methyl-5-oxo-4,5-dihydro-1*H*-imidazole-2-carbaldehyde oxime
CAS-No. 1420815-34-4

SARA 302 components

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

SARA 313 components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 hazards

No SARA Hazards

Massachusetts right to know components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania right to know components

(*E*)-4-((*Z*)-3,5-difluoro-4-hydroxybenzylidene)-1-methyl-5-oxo-4,5-dihydro-1*H*-imidazole-2-carbaldehyde oxime
CAS-No. 1420815-34-4

New Jersey Right To Know Components

(*E*)-4-((*Z*)-3,5-difluoro-4-hydroxybenzylidene)-1-methyl-5-oxo-4,5-dihydro-1*H*-imidazole-2-carbaldehyde oxime
CAS-No. 1420815-34-4

California prop. 65 components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION**Further information**

Copyright 2020 Lucerna, Inc. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lucerna, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See website for additional terms and conditions of sale.