Flurbiprofen USP

SAFETY DATA SHEET

Section 1 Identification of the substance/mixture and of the company/undertaking

Product Identifier
Identification on the label/ Tradename: Flurbiprofen USP
Identification of the Product: CAS# 5104-49-4
Formula: C15H13FO2
CI No.: Not Available
Synonyms: [1,1’-Biphenyl]-4-acetic acid, 2-fluoro-alpha-methyl-, (+/-)-

Relevant identified uses of the substance and uses advised against:
Identified Uses: For research use only, not for human or veterinary use.
Uses Advised Against: No information available

Name, address, and telephone number of the manufacturer:
Refer to Supplier
Name, address, and telephone number of the supplier:
Encore Scientific 801 West New Orleans Street Broken Arrow, OK, USA 74011
Supplier’s Telephone # 800-454-2304 Monday to Friday 8:00 am to 6:00 pm (Central time)
24 Hr. Emergency Tel # INFOTRAC: (800) 535-5053 (Within Continental US and Canada); (352)323-3500 (International)

Section 2 Hazards Identification

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acute Toxicity: Oral, Category 3
Toxic to Reproduction, Category 2

Adverse physicochemical, human health and environmental effects:

Risk Phrases:
Toxic if swallowed. Irritating to the respiratory system. Possible risk of harm to the unborn child.

Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Signal Word: Danger

Hazard Phrases:
H301: Toxic if swallowed.
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Section 2 Hazards Identification (continued)

H361: Suspected of damaging fertility or the unborn child.

Precaution Phrases:
P264: Wash {hands} thoroughly after handling.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P281: Use personal protective equipment as required.

Response Phrases:
P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P330: Rinse mouth.
P308+313: IF exposed or concerned: Get medical attention/advice.

Storage and Disposal Phrases:
Please refer to Section 7 for Storage and Section 13 for Disposal information.

Other hazards
Other hazards not contributing to the classification:
Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause eye, skin, or respiratory system irritation.
Suspected of damaging fertility or the unborn child.
Toxic if swallowed.
To the best of our knowledge, the toxicological properties have not been thoroughly investigated

Section 3 Composition/information on ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS No.</th>
<th>Weight %</th>
<th>EC No</th>
<th>Classification</th>
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<td>Acute Tox.(O) 3: H301</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Toxic Repro. 2: H361</td>
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</table>

Section 4 First aid measures

General Advice: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
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Section 4 First aid measures (continued)

Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Indication of any immediate medical attention and special treatment needed
In case of reactions described in hazards indications or other severe, immediate or persisting symptoms seek medical advice and call the nearest poison control center. Show the label and this safety data sheet.

Section 5 Fire-Fighting measures

Extinguishing media
Suitable extinguishing media: Use alcohol-resistant foam, carbon dioxide, water or dry chemical spray. Use water spray or fog to cool fire-exposed containers.

Unsuitable extinguishing media: Do NOT use a heavy water stream.

Special hazards arising from the substance or mixture
Fire hazard: No Data Available
Explosion hazard: No data available.
Reactivity: Incomplete combustion will generate poisonous carbon monoxide, carbon dioxide and other toxic gases

Advice for firefighters
Precautionary measures fire: Exercise caution when fighting any chemical fire.
Firefighting instructions: Use water spray or fog for cooling exposed containers.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information:

Section 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
General measures: Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.
For non-emergency personnel
Protective equipment: Use appropriate personal protection equipment (PPE).
Emergency procedures: Evacuate unnecessary personnel.
Section 6 Accidental release measures (continued)

For emergency responders
Protective equipment: As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Emergency procedures: Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.

Environmental precautions
Take steps to avoid release into the environment, if safe to do so.

Methods and material for containment and cleaning up
To clean the floor and all objects contaminated by this material, use: Water/Detergent. Transfer to a chemical waste container for disposal in accordance with local regulations. Avoid dust production. Ensure adequate ventilation.

Section 7 Handling and storage

Precautions for safe handling
Additional hazards when processed:
Precautions for safe handling:
Avoid all unnecessary exposure. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid prolonged or repeated exposure.
Hygiene measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Conditions for safe storage, including any incompatibilities
Technical measures: Material should be handled in a laboratory hood whenever possible
Storage conditions: Store in a well closed container at controlled temperature between 15 degrees and 30 degrees Celsius. Keep container tightly closed. Keep/Store away from heat sources including direct sunlight, open flame, sources of ignition, sparks, and/or incompatible materials.
Incompatible products: Not available

Section 8 Exposure Controls/Personal Protection

Control parameters
No additional information available

Exposure controls
Appropriate engineering controls: Ensure adequate ventilation/exhaust, especially in confined areas when handling. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Individual protection measures, such as personal protective equipment (PPE) should be utilized. Provide local exhaust or general room ventilation.
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Section 8 Exposure Controls/Personal Protection (continued)

Personal protective equipment:

Materials for protective clothing:
Chemically resistant materials and fabrics.

Hand protection:
Protective gloves resistant to chemical penetration

Eye protection:
Safety glasses or chemical goggles

Skin and body protection:
Wear suitable protective clothing.

Respiratory protection:
Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Environmental exposure controls: Do not allow the product to be released into the environment.

Consumer exposure controls: Do not eat, drink or smoke during use.

Section 9 Physical and chemical properties

Information on basic physical and chemical properties:
Physical state: crystalline powder
Color: White to almost white
Odor: No data available
Odor threshold: No data available
pH: No data available
Evaporation rate: No data available
Melting point: 114-117 °C
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Auto-ignition temperature: No data available
 Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapor pressure: No data available
Relative vapor density at 20 °C: No data available
Relative density: No data available
Solubility: ~100 mg/ml in EtOH, DMF & DMSO; Practically soluble in water, freely soluble in alcohol and in methylene chloride. It dissolves in aqueous solution of alkali hydroxides and carbonates

Partition coefficient: n-octanol/water: No data available
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Section 9 Physical and chemical properties (continued)

Information on basic physical and chemical properties (continued):

Viscosity: No data available
Explosive properties: No data available
Oxidizing properties: No data available
Explosive limits: No data available

Other information
Molecular Formula/ Weight: C15H13FO2/ 244.3

Section 10 Stability and reactivity

Reactivity Avoid strong acid, strong bases, strong oxidizers
Chemical stability Stable under recommended normal handling and storage conditions (see section 7).

Possibility of hazardous reactions
Hazardous polymerization will not occur.

Conditions to avoid
Heat. Sources of ignition

Incompatible materials: Strong acids, strong bases, strong oxidizers
Hazardous decomposition products: When heated to decomposition, emits dangerous fumes: Hydrogen fluoride, carbon dioxide, carbon monoxide.
Hazardous Reactions: None under normal conditions set forth

Section 11 Toxicological information

Information on toxicological effects

Nervous system disorders. This material may induce blood disorders and/or aggravate pre-existing blood disorders. Sleepiness.

Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Not classified
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Investigated as a reproductive effector
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Section 11 Toxicological information (continued)

Specific target organ toxicity (single exposure): Not classified
Specific target organ toxicity (repeated exposure): Not classified
Aspiration hazard: Not classified

**** See actual entry in RTECS for complete information. (±)-Flurbiprofen RTECS Number: DU8341000

Section 12 Ecological information

Toxicity: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution. Log P octanol/water at 20 degrees Celsius: 4.16
Persistence and degradability: No additional information available
Bio-accumulative potential: No additional information available
Mobility in soil: No additional information available
Results of PBT and vPvB assessment: No additional information available

Other adverse effects
Other information: Avoid release to the environment.

Section 13 Disposal considerations

Waste treatment methods
Waste disposal recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations. Dispose of this material and its container at hazardous or special waste collection point.
Ecology - waste materials: Avoid release to the environment.

Section 14 Transport information

In accordance with ADR / RID / IMDG / IATA / ADN
UN number: 2811
UN proper shipping name: Toxic solids, organic, n.o.s. (Flurbiprofen)
Transport hazard class(es): 6.1 POISON

Packing group: III

Environmental hazards
Section 14 Transport information (continued)

Other information: Transport in accordance with local, state, and federal regulations. When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore, packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

Special precautions for user
Overland transport: No additional information available
Transport by sea: No additional information available
Air transport: No additional information available
Transport in bulk according to Annex II of MARPOL and the IBC Code
Not applicable

Section 15 Regulation information

Safety, health and environmental regulations/legislation specific for the substance or mixture

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
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<td>5104-49-4</td>
<td>Flurbiprofen</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes</td>
</tr>
</tbody>
</table>

Hazard Statement:
This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

National regulations
No additional information available

Chemical safety assessment
No chemical safety assessment has been carried out
Flurbiprofen USP

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Section 16 Other information

Further information: This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Notice to reader: Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.