

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

- **Product name:** *4'-Hydroxydiclofenac [13C6]*
- **Catalog number:** 451006
- **Manufacturer/Supplier:**
BD Biosciences, Discovery Labware
6 Henshaw Street
Woburn, MA 01801
Tel: 800.334.5229
email: labware@bd.com
- **Information department:** Technical Services
- **Emergency information:**
In case of a chemical emergency, spill, fire, exposure, or accident contact BD Biosciences Discovery Labware at 800.334.5229, or ChemTrec at 800.424.9300.

2 Composition/information on ingredients

- **Chemical characterization:**
- **CAS No. Description:**
Heavy labeled 64118-84-9
4'-Hydroxydiclofenac [13C6]

3 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS06 Skull and crossbones

- H301 Toxic if swallowed.
- H315 Causes skin irritation.
- H335 May cause respiratory irritation.



GHS05 Corrosion

- H318 Causes serious eye damage.



GHS09 Environment

- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



T; Toxic

- R25: Toxic if swallowed.



Xi; Irritant

- R37/38-41: Irritating to respiratory system and skin. Risk of serious damage to eyes.



N; Dangerous for the environment

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R50/53: *Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
- **Hazard pictograms**



GHS05 GHS06 GHS09

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
4'-Hydroxydiclofenac
- **Hazard statements**
Toxic if swallowed.
Causes skin irritation.
Causes serious eye damage.
May cause respiratory irritation.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

- **Precautionary statements**
Avoid breathing dust/fume/gas/mist/vapours/spray.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with regulations on hazardous materials.
- **Code letter and hazard designation of product:**



T Toxic
N Dangerous for the environment

- **Risk phrases:**
25 Toxic if swallowed.
37/38 Irritating to respiratory system and skin.
41 Risk of serious damage to eyes.
50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- **Safety phrases:**
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
39 Wear eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately.
60 This material and its container must be disposed of as hazardous waste.
61 Avoid release to the environment. Refer to special instructions/Safety data sheets

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- **Classification system**
- **NFPA ratings (scale 0-4)**



Health = 2
Flammability = 0
Reactivity = 0

4 First aid measures

- **General information**

Immediately remove contaminated clothing.

Symptoms of poisoning may even occur after several hours; therefore provide medical observation for at least 48 hours after the accident.

In case of irregular breathing or respiratory arrest provide artificial respiration.

- **After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek medical advice.

- **After skin contact**

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

- **After eye contact** Rinse opened eye for 15 minutes under running water. Then consult a doctor.

- **After swallowing**

If swallowed, rinse mouth with water (only if the person is conscious)

Seek immediate medical advice.

- **Information for doctor** Show the product label or this MSDS.

5 Firefighting measures

- **Suitable extinguishing agents**

CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Person-related safety precautions:**

Evacuate the area. Wear protective equipment.

Use respiratory protective device.

Ensure adequate ventilation

Avoid formation of dust.

- **Measures for environmental protection:**

Wipe up with damp sponge or mop.

Do not allow product to reach sewage system or any water course.

- **Measures for cleaning/collecting:**

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

- **Additional information:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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7 Handling and storage

- **Handling**
- **Information for safe handling:**
 - Prevent formation of dust.
 - Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** -20° C
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:**
 - Use only in a chemical fume hood. Safety shower and eye bath.
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
- **General protective and hygienic measures**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing.
 - Wash hands before breaks and at the end of work.
 - Avoid contact with the skin.
 - Avoid contact with the eyes and skin.
- **Breathing equipment:**
 - In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.
 - Filter N100 (US) or P3 (EN 143).
- **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

- **Eye protection:**
 - Safety glasses
 - Face protection
- **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties

- **General Information**
- **Appearance:**
 - Form:** Solid.
 - Color:** White
 - Odor:** Characteristic

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- **Change in condition**
Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined
- **Flash point:** *Not applicable*
- **Flammability (solid, gaseous)** *Product is not flammable.*
- **Danger of explosion:** *Product does not present an explosion hazard.*
- **Vapor pressure:** *Not applicable*
- **Density:** *Not determined*
- **Solubility in / Miscibility with Water:** *Soluble*
- **pH-value:** *Not applicable*
- **Formula Weight** *318.15*

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Materials to be avoided:** *Incompatible material: strong oxidizers.*
- **Dangerous reactions** *No dangerous reactions known*
- **Dangerous products of decomposition:**
Nitrogen oxides (NO_x)
Hydrogen chloride (HCl)
Carbon monoxide (CO) and carbon dioxide (CO₂)

11 Toxicological information

- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

64118-84-9 4'-Hydroxydiclofenac		
Oral	LD50	190 mg/kg (Rat)

- **Primary irritant effect:**
- **on the skin:** *Irritant to skin and mucous membranes.*
- **on the eye:** *Strong irritant with the danger of severe eye injury.*
- **Sensitization:** *No sensitizing effects known.*
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic
Corrosive (causes skin burns)
Irritant

12 Ecological information

- **Ecotoxic effects:**
- **Remark:** *Very toxic for fish*

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- **Additional ecological information:**
- **General notes:** *Very toxic for aquatic organisms*

13 Disposal considerations

- **Product:**
- **Recommendation**
*Must not be disposed of with solid waste.
 Dispose of material in accordance with federal (40 CFR 261), state and local requirements.
 This product is not considered a RCRA hazardous waste.*
- **Uncleaned packagings:**
- **Recommendation:** *Disposal must be made according to state and federal regulations.*
- **Recommended cleansing agent:** *Water, if necessary with cleansing agents.*

14 Transport information

- **DOT regulations:**
- **Hazard class:** 6.1
- **Identification number:** UN2811
- **Packing group:** III
- **Proper shipping name:** TOXIC SOLID, ORGANIC, N.O.S. (4'-Hydroxydiclofenac)

- **Land transport ADR/RID (cross-border)**



- **ADR/RID class:** 6.1 (T2) Toxic substances
- **UN-Number:** 2811
- **Packaging group:** II
- **Special marking:** Symbol (fish and tree)
- **Description of goods:** 2811 TOXIC SOLID, ORGANIC, N.O.S. (4'-Hydroxydiclofenac)

- **Maritime transport IMDG:**
- **IMDG Class:** 6.1
- **UN Number:** 2811
- **EMS Number:** F-A,S-A
- **Marine pollutant:** No
- **Proper shipping name:** TOXIC SOLID, ORGANIC, N.O.S. (4'-Hydroxydiclofenac)

- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** 6.1
- **UN/ID Number:** 2811
- **Packaging group:** III
- **Proper shipping name:** TOXIC SOLID, ORGANIC, N.O.S. (4'-Hydroxydiclofenac)

- **UN "Model Regulation":** UN2811, TOXIC SOLID, ORGANIC, N.O.S., 6.1, II

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· Transport/Additional information:

If a dashed line appears in the Hazard Class section for the type of transportation, this indicates the product is not regulated for transportation. However, if a Hazard Class Number is listed the product is regulated.

15 Regulatory information**· SARA Section 355 (extremely hazardous substances)**

Substance is not listed.

· SARA Section 313 (specific toxic chemical listings)

Substance is not listed.

· TSCA (Toxic Substances Control Act)

Substance is not listed.

· California Proposition 65 - Chemicals known to cause cancer

Substance is not listed.

· Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is not listed.

· Carcinogenic categories**· IARC (International Agency for Research on Cancer)**

Substance is not listed.

· NTP (National Toxicology Program)

Substance is not listed.

· TLV (Threshold Limit Value established by ACGIH)

Substance is not listed.

· Chemical safety assessment A Chemical Safety Assessment has not been carried out.**16 Other information**

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

· Department issuing MSDS: Safety and Environment Department**· Contact:** Technical Service Representative**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

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Material Safety Data Sheet
acc. to ISO/DIS 11014

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ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

USA