# Kit Summary

**Product Code(s)**  
AB139432

**Product Name**  
Cyclooxygenase (COX) Activity Assay Kit (Luminometric)

## COX Substrate

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (67/548)</th>
<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMF</td>
<td>200-679-5</td>
<td>68-12-2</td>
<td>20</td>
<td>Xn; R20/21</td>
<td>Eye Irrit. 2 (H319)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Xi; R36</td>
<td>Repr. 1B (H360D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Repr. Cat.2; R61 F; R10</td>
<td>Acute Tox. 4 (H312)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (H332)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Flam Liq. 3 (H226)</td>
<td></td>
</tr>
</tbody>
</table>

### Meloxicam

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (67/548)</th>
<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meloxicam</td>
<td>-</td>
<td>71125-38-7</td>
<td>35</td>
<td>Xn; R22</td>
<td>Acute Tox. 4 (H302)</td>
<td>no data available</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Xi; R36/37/38</td>
<td>Eye Irrit. 2 (H319)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3 (H335)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2 (H315)</td>
<td></td>
</tr>
</tbody>
</table>

### Ibuprofen

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (67/548)</th>
<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ibuprofen</td>
<td>-</td>
<td>15687-27-1</td>
<td>6.8</td>
<td>Xn; R22</td>
<td>Acute Tox. 4 (H302)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Repr. Cat. 3; R62-63</td>
<td>Repr. 2 (H361fd)</td>
<td></td>
</tr>
</tbody>
</table>

### GHS / CLP - GHS - Classification

**Signal Word**  
Danger

**Hazard Statements**  
H302 - Harmful if swallowed  
H319 - Causes serious eye irritation  
H360 - May damage fertility or the unborn child
Precautionary Statements - EU (§28, 1272/2008)
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308 + P313 - IF exposed or concerned: Get medical advice/ attention
P337 + P313 - If eye irritation persists: Get medical advice/ attention
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P501 - Dispose of contents/container to an approved waste disposal plant
P280 - Wear protective gloves/ eye protection/ face protection
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
P405 - Store locked up

2.3 Other information

A safety datasheet follows for all potentially hazardous components – all other components are non-hazardous.

TRANSPORT INFORMATION

DOT
Not dangerous goods

IATA
Not dangerous goods

ADR
Not dangerous goods
Safety Data Sheet

Issuing date: no data available  Revision Date: 20-Apr-2016  Version: 4

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: COX Substrate
Recommended use: For research use only

Supplier Address:
Abcam Inc
1 Kendall Square, Ste 341
Cambridge, MA 02139-1517
USA
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

E-mail address: technical@abcam.com

Emergency telephone:
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

2. HAZARDS IDENTIFICATION

GHS - Classification

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute inhalation toxicity - vapor</td>
<td>Category 4</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Ozone</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

![GHS Labels]

Signal Word:
Danger

Hazard statements:
H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H360 - May damage fertility or the unborn child
Precautionary Statements - EU (§28, 1272/2008)
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/ attention
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P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
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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
P405 - Store locked up

Other information
No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMF</td>
<td>68-12-2</td>
<td>10-30</td>
<td>Eye Irrit. 2 (H319)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Repr. 1B (H360D)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (H312)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (H332)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Flam Liq. 3 (H226)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16

4. FIRST AID MEASURES

General advice
If symptoms persist, call a physician.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Inhalation
Move to fresh air. If symptoms persist, call a physician.

Ingestion
Rinse mouth. If symptoms persist, call a physician.

Notes to physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties
Not flammable.

Flash point
not determined
### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### Explosion Data

<table>
<thead>
<tr>
<th>Sensitivity to Mechanical Impact</th>
<th>none.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity to Static Discharge</td>
<td>none.</td>
</tr>
</tbody>
</table>

### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

**Environmental precautions**

Try to prevent the material from entering drains or water courses.

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers.

### 7. HANDLING AND STORAGE

**Advice on safe handling**

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Remove and wash contaminated clothing before re-use. Do not breathe vapors or spray mist. Do not eat, drink or smoke when using this product. Use only in area provided with appropriate exhaust ventilation.

**Technical measures/Storage conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.
### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines**

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMF 68-12-2</td>
<td>TWA: 10 ppm S*</td>
<td>TWA: 10 ppm TWA: 10 ppm (vacated) TWA: 10 ppm (vacated) 30 mg/m³ TWA: 30 mg/m³ (vacated) S* S*</td>
<td>IDLH: 500 ppm TWA: 10 ppm TWA: 30 mg/m³</td>
</tr>
</tbody>
</table>

**NIOSH IDLH:** Immediately Dangerous to Life or Health

**Other Exposure Guidelines**

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Engineering measures**

- Showers
- Eyewash stations
- Ventilation systems

**Personal protective equipment**

- **Eye/face protection**
  - Tightly fitting safety goggles. Face-shield.
- **Skin and body protection**
  - No special protective equipment required.
- **Respiratory protection**
  - If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene measures**

- When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>No information available.</td>
<td>Odor</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available.</td>
<td>Physical State @20°C</td>
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<tr>
<td>pH</td>
<td>No information available.</td>
<td>Autoignition temperature</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available.</td>
<td>Boiling point/boiling range</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available.</td>
<td>Flammability Limits in Air</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No information available.</td>
<td></td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No information available.</td>
<td>solubility</td>
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<tr>
<td>Specific Gravity</td>
<td>no data available</td>
<td>Vapor density</td>
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<tr>
<td>Evaporation rate</td>
<td>No information available.</td>
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</tr>
<tr>
<td>VOC Content(%)</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.

Hazardous polymerization
Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information
Harmful if swallowed Product is harmful by skin contact Harmful by inhalation Irritating to skin, eyes and / or respiratory tract.

Inhalation
Harmful by inhalation May cause irritation of respiratory tract

Eye contact
May cause irritation

Skin contact
May cause irritation

Ingestion
Harmful if swallowed Ingestion may cause irritation to mucous membranes

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral ( Rat )</th>
<th>LD50 Dermal ( Rat )</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMF</td>
<td>200 mg/kg</td>
<td>3.2 g/kg</td>
<td></td>
</tr>
</tbody>
</table>

Chronic toxicity

Avoid repeated exposure May cause adverse liver effects

Carcinogenicity
This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMF</td>
<td></td>
<td>Group 3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IARC: (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity
Product is or contains a chemical which is a known or suspected reproductive hazard

Developmental Toxicity
Contains ingredients that have suspected developmental hazards Possible risk of harm to the unborn child May cause birth defects

Target Organ Effects
12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to microorganisms</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMF</td>
<td>500: 96 h Desmodesmus subspicatus mg/L EC50</td>
<td>6300: 96 h Lepomis macrochirus mg/L LC50 9800: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 10410: 96 h Pimephales promelas mg/L LC50 flow-through</td>
<td>7500: 48 h Daphnia magna mg/L EC50 8485: 48 h Daphnia magna mg/L EC50 semi-static 6800 - 13900: 48 h Daphnia magna mg/L EC50 Static</td>
<td></td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging
Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT
Not dangerous goods

IATA
Not dangerous goods

ADR
Not dangerous goods

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMF</td>
<td>68-12-2</td>
<td>20</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

- Acute Health Hazard: yes
- Chronic Health Hazard: yes
- Fire Hazard: no
- Sudden Release of Pressure Hazard: no
- Reactive Hazard: no

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).
CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMF</td>
<td>100 lb</td>
<td>RQ 100 lb final RQ RQ 45.4 kg final RQ</td>
<td></td>
</tr>
</tbody>
</table>

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMF</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

International Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Carcinogen Status</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMF</td>
<td></td>
<td>Mexico: TWA 10 ppm Mexico: TWA 30 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: STEL 20 ppm Mexico: STEL 60 mg/m³</td>
</tr>
</tbody>
</table>

WHMIS Note: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H319 - Causes serious eye irritation H360D - May damage the unborn child H312 - Harmful in contact with skin H332 - Harmful if inhaled H226 - Flammable liquid and vapor

Hazard statements
H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H360 - May damage fertility or the unborn child

Revision Date 20-Apr-2016
Revision Note No information available.

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of MSDS
1. PRODUCT AND COMPANY IDENTIFICATION

Product name Meloxicam
Recommended use For research use only
Supplier Address Abcam Inc
1 Kendall Square, Ste 341
Cambridge, MA 02139-1517
USA
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)
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2. HAZARDS IDENTIFICATION

GHS - Classification

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ systemic toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Ozone</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Warning

Hazard statements
H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
Precautionary Statements - EU (§28, 1272/2008)
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P264 - Wash face, hands and any exposed skin thoroughly after handling
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P270 - Do not eat, drink or smoke when using this product
P501 - Dispose of contents/container to an approved waste disposal plant
P280 - Wear protective gloves/eye protection/face protection
P362 - Take off contaminated clothing and wash before reuse
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P271 - Use only outdoors or in a well-ventilated area
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up

Other information
No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meloxicam</td>
<td>71125-38-7</td>
<td>15-40</td>
<td>Acute Tox. 4 (H302) Eye Irrit. 2 (H319) STOT SE 3 (H335) Skin Irrit. 2 (H315)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16

4. FIRST AID MEASURES

General advice If symptoms persist, call a physician.
Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.
Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
Inhalation Move to fresh air. If symptoms persist, call a physician.
Ingestion Rinse mouth. If symptoms persist, call a physician.
Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties Not flammable.
Flash point not determined
Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data

Sensitivity to Mechanical Impact

none.

Sensitivity to Static Discharge

none.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Try to prevent the material from entering drains or water courses.

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material. Dam up.

7. HANDLING AND STORAGE

Advice on safe handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Remove and wash contaminated clothing before re-use. Do not breathe vapors or spray mist. Do not eat, drink or smoke when using this product. Use only in area provided with appropriate exhaust ventilation.

Technical measures/Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering measures

Showers
Eyewash stations
Ventilation systems

Personal protective equipment

Eye/face protection
Tightly fitting safety goggles. Face-shield.

Skin and body protection
No special protective equipment required.

Respiratory protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>no data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>VOC Content(%)</td>
<td>not applicable</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Physical State @20°C</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>No information available</td>
</tr>
<tr>
<td>Hazardous polymerization</td>
<td>Hazardous polymerization does not occur.</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

- Stability: Stable under recommended storage conditions.
- Incompatible products: None known based on information supplied.
- Conditions to avoid: None known based on information supplied.
- Hazardous decomposition products: None known based on information supplied.
- Hazardous polymerization: Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
- Product Information: Harmful if swallowed Irritating to skin, eyes and / or respiratory tract.
- Inhalation: May cause irritation of respiratory tract
- Eye contact: May cause irritation
- Skin contact: May cause irritation
- Ingestion: Harmful if swallowed Ingestion may cause irritation to mucous membranes

Chronic toxicity
- Chronic toxicity: Avoid repeated exposure

Target Organ Effects
- None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity
- The environmental impact of this product has not been fully investigated.
13. DISPOSAL CONSIDERATIONS

Waste disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging
Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT
Not dangerous goods

IATA
Not dangerous goods

ADR
Not dangerous goods

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Presence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
</tr>
</tbody>
</table>

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

International Regulations

WHMIS Note:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.
16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H335 - May cause respiratory irritation  H315 - Causes skin irritation  H319 - Causes serious eye irritation  H302 - Harmful if swallowed

Hazard statements
H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Revision Date 20-Apr-2016
Revision Note No information available.

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of MSDS
1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Ibuprofen

Recommended use: For research use only

Supplier Address:
Abcam Inc
1 Kendall Square, Ste 341
Cambridge, MA 02139-1517
USA
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

E-mail address: technical@abcam.com

Emergency telephone:
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

2. HAZARDS IDENTIFICATION

GHS - Classification

<table>
<thead>
<tr>
<th>Reproductive toxicity</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Warning

Hazard statements
H361 - Suspected of damaging fertility or the unborn child

Precautionary Statements - EU (§28, 1272/2008)
P308 + P313 - IF exposed or concerned: Get medical advice/ attention
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
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant
Other information
No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ibuprofen</td>
<td>15687-27-1</td>
<td>3.7</td>
<td>Acute Tox. 4 (H302)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Repr. 2 (H361fd)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation
Move to fresh air.

Ingestion
Clean mouth with water. Drink plenty of water.

Notes to physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties
Not flammable.

Flash point
Not determined

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data
Sensitivity to Mechanical Impact
none.

Sensitivity to Static Discharge
none.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
### 6. ACCIDENTAL RELEASE MEASURES

<table>
<thead>
<tr>
<th>Personal precautions</th>
<th>Ensure adequate ventilation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental precautions</td>
<td>Try to prevent the material from entering drains or water courses.</td>
</tr>
<tr>
<td>Methods for containment</td>
<td>Prevent further leakage or spillage if safe to do so.</td>
</tr>
<tr>
<td>Methods for cleaning up</td>
<td>Pick up and transfer to properly labeled containers.</td>
</tr>
</tbody>
</table>

### 7. HANDLING AND STORAGE

<table>
<thead>
<tr>
<th>Advice on safe handling</th>
<th>Handle in accordance with good industrial hygiene and safety practice.</th>
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<td>Technical measures/Storage conditions</td>
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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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<tr>
<td>solubility</td>
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<td>Vapor density</td>
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10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.

Hazardous polymerization
Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information
Product does not present an acute toxicity hazard based on known or supplied information.

Chronic toxicity

Reproductive toxicity
Product is or contains a chemical which is a known or suspected reproductive hazard

Developmental Toxicity
Contains ingredients that have suspected developmental hazards Possible risk of harm to the unborn child May cause birth defects

Target Organ Effects
None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
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16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H302 - Harmful if swallowed H361 - Suspected of damaging fertility. Suspected of damaging the unborn child

Hazard statements
H361 - Suspected of damaging fertility or the unborn child

Revision Date 20-Apr-2016
Revision Note No information available.

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End of MSDS