

SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
HPR, Schedule 1

Revision date Not Applicable

Revision Number N/A

1. Identification

Product identifier

Product Name 2-Bromofluorene

Other means of identification

Product Code(s) TRC-B685225-25G

Recommended use of the chemical and restrictions on use

Recommended use Laboratory use

Restrictions on use No information available

Details of the supplier of the safety data sheet

Will be updated as per company.

Emergency telephone number

Emergency Telephone

Will be updated as per company.

2. Hazard identification

Classification

Classification according to WHIMIS

| | |
|--|------------|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2 |
| Specific target organ toxicity — single exposure | Category 3 |

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Chronic aquatic toxicity

Category 1

Label elements

Warning

Hazard statements

Classification according to WHMIS
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
Very toxic to aquatic life with long lasting effects



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Avoid breathing dust, fume, gas, mist, vapors and spray
Use only outdoors or in a well-ventilated area
Avoid release to the environment
Wear protective gloves, protective clothing, eye protection and face protection

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice and attention

Skin

IF ON SKIN: Wash with plenty of water and soap
If skin irritation occurs: Get medical advice and attention
Take off all contaminated clothing and wash it before reuse

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTRE or doctor if you feel unwell

Spill

Collect spillage

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal

Dispose of contents and container to an approved waste disposal plant

Other information

Very toxic to aquatic life.

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3. Composition/information on ingredients

Substance

Formula C13H9Br

| Chemical name | CAS No. | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|-----------------|-----------|-----------|--|---|
| 2-Bromofluorene | 1133-80-8 | 90 - 100% | - | |

4. First-aid measures

Description of first aid measures

| | |
|------------------------------------|---|
| General advice | Show this safety data sheet to the doctor in attendance. |
| Inhalation | Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Get medical attention immediately if symptoms occur. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists. |
| Skin contact | Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists. |
| Ingestion | Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a doctor. |
| Self-protection of the first aider | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). |

Most important symptoms and effects, both acute and delayed

Symptoms May cause redness and tearing of the eyes. Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the

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surrounding environment.

Large Fire

CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media

Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

No information available.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.

Other information

Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Pick up and transfer to properly labelled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. Ensure adequate ventilation. Avoid breathing vapours or mists. In case of insufficient ventilation, wear suitable respiratory equipment.

Conditions for safe storage, including any incompatibilities

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Storage Conditions#

Keep containers tightly closed in a dry, cool and well-ventilated place. Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

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

Appropriate engineering controls

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

If splashes are likely to occur, wear safety glasses with side-shields. Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

Hand protection

Wear suitable gloves. Impervious gloves. The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.

Skin and body protection

Long sleeved clothing. Wear suitable protective clothing.

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls

Do not allow into any sewer, on the ground or into any body of water.

General hygiene considerations

Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.

9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|-----------------|--------------------------|
| Physical state | Solid |
| Appearance | Solid |
| Colour | white to off-white |
| Odour | No information available |
| Odour threshold | No information available |

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| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---|---------------------------|-------------------------|
| pH | No data available | None known |
| Melting point / freezing point | No data available | None known |
| Initial boiling point and boiling range | No data available | None known |
| Flash point | No data available | None known |
| Evaporation rate | No data available | None known |
| Flammability | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapour pressure | No data available | None known |
| Relative vapour density | No data available | None known |
| Relative density | No data available | None known |
| Water solubility | No data available | None known |
| Solubility in other solvents | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| <u>Other information</u> | | |
| Explosive properties | No information available. | |
| Oxidising properties | No information available. | |
| Softening point | No information available | |
| Molecular weight | 245.11 | |
| VOC content | No information available | |
| Liquid Density | No information available | |
| Bulk density | No information available | |

10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidising agents.

Hazardous decomposition products None known based on information supplied.

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11. Toxicological information

Information on likely routes of exposure

Product Information

| | |
|--------------|---|
| Inhalation | Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. |
| Eye contact | Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain. |
| Skin contact | Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components). |
| Ingestion | Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|----------|---|
| Symptoms | Redness. May cause redness and tearing of the eyes. |
|----------|---|

Acute toxicity

Numerical measures of toxicity

No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|-----------------------------------|--|
| Skin corrosion/irritation | Classification based on data available for ingredients. Causes skin irritation. May cause skin irritation. |
| Serious eye damage/eye irritation | Classification based on data available for ingredients. Causes serious eye irritation. |
| Respiratory or skin sensitisation | No information available. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | No information available. |
| Reproductive toxicity | No information available. |

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STOT - single exposure May cause respiratory irritation.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Persistence and degradability No information available.

Bioaccumulation No information available.

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

TDG

| | |
|----------------------------|---|
| UN number or ID number | UN3077 |
| UN proper shipping name | Environmentally hazardous substances, solid, n.o.s. (2-Bromofluorene) |
| Transport hazard class(es) | 9 |
| Packing group | III |
| Special Provisions | 16, 99 |
| Marine pollutant | P. |
| Description | UN3077, Environmentally hazardous substances, solid, n.o.s. (2-Bromofluorene), 9, III |

DOT

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| | |
|---------------------------------|---|
| UN number or ID number | UN3077 |
| Extended proper shipping name | Environmentally hazardous substances, solid, n.o.s. (2-Bromofluorene) |
| Transport hazard class(es) | 9 |
| Packing group | III |
| DOT Marine Pollutant | I. |
| Marine pollutant | 2-Bromofluorene |
| Description | UN3077, Environmentally hazardous substances, solid, n.o.s. (2-Bromofluorene), 9, III, Marine pollutant |
| Special Provisions | 8, 146, 335, 384, 441, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33 |
| Emergency Response Guide Number | 171 |
| MEX | |
| UN number or ID number | UN3077 |
| UN proper shipping name | Environmentally hazardous substances, solid, n.o.s. (2-Bromofluorene) |
| Transport hazard class(es) | 9 |
| Packing group | III |
| Description | UN3077, Environmentally hazardous substances, solid, n.o.s. (2-Bromofluorene), 9, III |
| Special Provisions | 274, 331, 335 |
| IATA | |
| UN number | UN3077 |
| UN proper shipping name | Environmentally hazardous substances, solid, n.o.s. (2-Bromofluorene) |
| Transport hazard class(es) | 9 |
| Packing group | III |
| ERG Code | 9L |
| Special Provisions | A97, A158, A179, A197, A215 |
| Description | UN3077, Environmentally hazardous substances, solid, n.o.s. (2-Bromofluorene), 9, III |
| UN number | UN3077 |
| UN proper shipping name | Environmentally hazardous substances, solid, n.o.s. (2-Bromofluorene) |
| Transport hazard class(es) | 9 |
| Packing group | III |
| EmS-No. | F-A, S-F |
| Special Provisions | 274, 335, 966, 967, 969 |
| Marine pollutant | P |
| Description | UN3077, Environmentally hazardous substances, solid, n.o.s. (2-Bromofluorene), 9, III, Marine pollutant |

15. Regulatory information

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

| | |
|----------------------|---|
| TSCA | Complies under research and development exemption or is regulated by a different government agency. |
| DSL/NDSL | Contact supplier for inventory compliance status. |
| EINECS/ELINCS | Contact supplier for inventory compliance status. |
| ENCS | Contact supplier for inventory compliance status. |
| IECSC | Contact supplier for inventory compliance status. |
| KECL | Contact supplier for inventory compliance status. |
| PICCS | Contact supplier for inventory compliance status. |
| AIIC | Contact supplier for inventory compliance status. |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

16. Other information

| | | | | |
|-------------|-------------------------|-----------------------|---------------------------|------------------------------|
| NFPA | Health hazards 2 | Flammability 0 | Instability 0 | Special hazards - |
| HMIS | Health hazards 2 | Flammability 0 | Physical hazards 0 | Personal protection X |

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | Sk* | Skin designation |

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGl(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date N/A

Disclaimer

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/ or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. Company makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

Disclaimer

The Final Document will be available at the time of consignment.

Can vary as per company.

End of Safety Data Sheet