

## FC15-10

## 2-(Perfluorodecyl)ethyl Bromide

Revised 18-November-2016

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**1. PRODUCT AND COMPANY IDENTIFICATION**


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**Product Identifier**

|                |                                 |
|----------------|---------------------------------|
| Product Name   | 2-(Perfluorodecyl)ethyl bromide |
| Catalog Number | FC15-10                         |
| Brand          | Fluoryx Labs                    |
| CAS Number     | 332136-76-2                     |

**Relevant identified uses of the Substance or mixture and uses advised against**

|                  |  |
|------------------|--|
| Identified uses: | Laboratory chemicals. Manufacture of substances. |
|------------------|--|

**Details of the supplier of the safety data sheet**

|         |  |
|---------|--|
| Company | <b>Fluoryx Labs</b><br>3650 Research Way, #22<br>Carson City, NV 89706<br>USA<br>+1 (510) 329-9149 (Telephone)<br>+1 (510) 686-8799 (Fax)<br>www.fluoryx.com |
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**Emergency call:**

|                                  |
|----------------------------------|
| +01-813-248-0585 (International) |
| +1-800-255-3924 (USA)            |

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**2. HAZARDS INFORMATION**


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**Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Skin irritation (Category 2), H315  
 Eye irritation (Category 2A), H319  
 Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335  
 For the full text of the H-Statements mentioned in this Section, see Section 16.

**GHS Label elements, including precautionary statements**

Pictogram



|                            |  |
|----------------------------|--|
| Signal word                | Warning  |
| Hazard statement(s)        | Causes skin irritation.<br>Causes serious eye irritation.<br>May cause respiratory irritation. |
| H315                       |  |
| H319                       |  |
| H335                       |  |
| Precautionary statement(s) | Avoid breathing dust/fume/gas/mist/vapors/spray.   |
| P261                       |  |

Warning

|                    |  |
|--------------------|--|
| P264               | Wash skin thoroughly after handling.   |
| P271               | Use only outdoors or in a well-ventilated area.  |
| P280               | Wear protective gloves/eye protection/face protection.   |
| P302 + P352        | IF ON SKIN: Wash with plenty of soap and water.  |
| P304 + P340        | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.                                 |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312               | Call a POISON CENTER or doctor/physician if you feel unwell.   |
| P321               | Specific treatment (see supplemental first aid instructions on this label).  |
| P332 + P313        | If skin irritation occurs: Get medical advice/attention.   |
| P337 + P313        | If eye irritation persists: Get medical advice/attention.  |
| P362               | Take off contaminated clothing and wash before reuse.  |
| P403 + P233        | Store in a well-ventilated place. Keep container tightly closed.   |
| P405               | Store locked up.   |
| P501               | Dispose of contents/container to an approved waste disposal plant.   |

Hazards not otherwise classified (HNOC) or not covered by GHS – none

**3. COMPOSITION AND INFORMATION ON INGREDIENTS**

**Synonyms** 1H,1H,2H,2H-Perfluorododecyl bromide;  
 Heptadecafluorododecyl bromide;  
 1-Bromo-1H,1H,2H,2H-3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-henicosafuorododecane;  
 1-Bromo-3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-henicosafuorododecane;  
 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Henicosafuorododecyl bromide;  
 6-Bromo-1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-henicosafuorododecane

**Chemical formula** C<sub>12</sub>H<sub>4</sub>BrF<sub>21</sub>  
 CF<sub>3</sub>CF<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>Br

**Molecular Weight** 627.03 g/mole

**CAS Number** 332136-76-2

**EC Number** None

**Hazardous components**

| Material                        | Classification  | Concentration |
|---------------------------------|---|---------------|
| 2-(Perfluorodecyl)ethyl bromide | Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; H315, H319, H335 | ≤100%         |

**4. FIRST AID MEASURES**

**General advice** Consult a physician. Show this safety data sheet to the doctor in attendance.

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

**In case of skin contact** Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact** Flush eyes with water as a precaution. Consult a

physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIREFIGHTING MEASURES**

**Suitable extinguishing media**

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

**Special protective equipment for firefighters**

Wear self-contained breathing apparatus for fire fighting.

**Hazardous combustion products**

Hazardous decomposition products formed under fire conditions - carbon oxides, hydrogen fluoride, hydrogen bromide.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions**

Use personal protective equipment. Avoid inhalation of vapor, mist, dust, or gas. Ensure adequate ventilation. Vapors can accumulate in low areas. Evacuate personnel to safe areas.

**Environmental precautions**

Do not let product enter drains. Discharge into the environment must be avoided.

**Methods for cleaning up**

Sweep up without creating dust and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE**

**Precautions for Safe Handling**

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Normal measures for preventive fire protection.

**Conditions for Safe Storage**

Keep container tightly closed in a dry and well-ventilated place.

**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

Contains no substances with occupational exposure limit values.

**Engineering Controls**

Safety shower and eye bath. Mechanical exhaust required.

**Personal protective equipment**

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

|                                 |   |
|---------------------------------|---|
| <b>Eye protection</b>           | Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |
| <b>Skin and body protection</b> | Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.              |
| <b>Hygiene measures</b>         | Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.  |

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

|       |       |
|-------|-------|
| Form  | Solid |
| Color | White |

### Safety Data

|  |                       |
|--|-----------------------|
| pH   | No data available     |
| Melting Point/Freezing Point                     | 62 °C                 |
| Boiling Point                                    | 243 °C @ 760 mm Hg    |
| Flash Point                                      | > 100 °C (closed cup) |
| Ignition Temperature                             | No data available     |
| Auto-ignition Temperature                        | No data available     |
| Lower Explosion Limit                            | No data available     |
| Upper Explosion Limit                            | No data available     |
| Thermal Decomposition Temperature                | No data available     |
| Vapor Pressure                                   | No data available     |
| Density  | 1.77 g/mL @ 25 °C     |
| Water Solubility                                 | Negligible            |
| Partition Coefficient ( <i>n</i> -octanol/water) | No data available     |
| Relative Vapor Density (Air = 1)                 | > 1                   |
| Odor   | No data available     |
| Odor Threshold                                   | No data available     |
| Evaporation Rate                                 | No data available     |
| Viscosity  | No data available     |

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## 10. STABILITY AND REACTIVITY

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|   |  |
|---|--|
| <b>Storage stability</b>                  | Stable under recommended storage conditions.   |
| <b>Possibility of hazardous reactions</b> | Polymerization will not occur.   |
| <b>Conditions to avoid</b>                | Keep away from open flames and heated surfaces above 200 °C (392 °F). Protect from light.  |
| <b>Materials to avoid</b>                 | Strong oxidizing agents.   |
| <b>Hazardous decomposition products</b>   | Hazardous decomposition products formed under fire conditions - carbon oxides, hydrogen fluoride, hydrogen bromide, carbonyl fluoride. |

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## 11. TOXICOLOGICAL INFORMATION

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**Acute toxicity**

|                                     |                   |
|-------------------------------------|-------------------|
| Oral LD50                           | No data available |
| Inhalation LC50                     | No data available |
| Dermal LD50                         | No data available |
| Other information on acute toxicity | No data available |

**Skin corrosion/irritation**

No data available.

**Serious eye damage/eye irritation**

No data available.

**Respiratory or skin sensitization**

No data available.

**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

No data available

**Specific target organ toxicity (Globally Harmonized System)**

|                   |                              |
|-------------------|------------------------------|
| Single exposure   | Eye - causes eye irritation. |
| Repeated exposure | No data available            |

**Aspiration Hazard**

No data available

**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       | Causes eyes irritation.   |
| Ingestion  | May be harmful if swallowed.  |

**Signs and Symptoms of Exposure**

No data available

**Synergistic Effects**

No data available

**Additional Information**

RTECS: not available

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

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**12. ECOLOGICAL INFORMATION**


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|                                      |                          |
|--------------------------------------|--------------------------|
| <b>Toxicity</b>                      | No data available        |
| <b>Persistence and Degradability</b> | Does not readily degrade |
| <b>Bioaccumulative Potential</b>     | No data available        |
| <b>Mobility in Soil</b>              | No data available        |
| <b>PBT and vPvB Assessment</b>       | No data available        |
| <b>Other adverse effects</b>         | No data available        |

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**13. DISPOSAL CONSIDERATIONS**


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|                               |   |
|-------------------------------|---|
| <b>Product</b>                | Offer non-recyclable solutions to a licensed disposal company. Contact Fluoryx Inc. to return unused product. |
| <b>Contaminated packaging</b> | Dispose of as unused product.   |

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**14. TRANSPORTATION INFORMATION**


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|                 |                     |
|-----------------|---------------------|
| <b>DOT (US)</b> | Not dangerous goods |
| <b>IMDG</b>     | Not dangerous goods |
| <b>IATA</b>     | Not dangerous goods |

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**15. REGULATORY INFORMATION**


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|   |   |
|---|---|
| <b>TSCA Status</b>                            | Not listed on the inventory.  |
| <b>DSL Status</b>                             | This product does not contain components listed on the Canadian NDSL list.  |
| <b>SARA 302 Components</b>                    | No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.   |
| <b>SARA 313 Components</b>                    | 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. |
| <b>SARA 311/312 Hazards</b>                   | No SARA hazards.  |
| <b>Massachusetts Right To Know Components</b> | No components are subject to the Massachusetts Right to Know Act.   |
| <b>Pennsylvania Right To Know Components</b>  | No components are subject to the Pennsylvania Right to Know Act.  |
| <b>New Jersey Right To Know Components</b>    | No components are subject to the New Jersey Right to Know Act.  |
| <b>California Prop. 65 Components</b>         | This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.  |

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**16. OTHER INFORMATION**


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**Full text of H-Statements referred to under sections 2 and 3.**

|             |  |
|-------------|--|
| Eye Irrit.  | Eye irritation                                   |
| H315        | Causes skin irritation.                          |
| H319        | Causes serious eye irritation.                   |
| H335        | May cause respiratory irritation.                |
| Skin Irrit. | Skin irritation                                  |
| STOT SE     | Specific target organ toxicity - single exposure |

**HMIS Classification**

|                   |   |
|-------------------|---|
| Health Hazard:    | 1 |
| Flammability:     | 0 |
| Physical hazards: | 0 |

**NFPA Rating**

|                    |   |
|--------------------|---|
| Health Hazard:     | 1 |
| Fire:              | 0 |
| Reactivity Hazard: | 0 |

**Further information:**

Not for drug, household, or other uses. The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations or mixtures, one must confirm that no new hazards are likely to exist. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. Unless noted to the contrary, the technical information applies only to pure product.

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End of SDS