



Material Safety Data Sheet

TBr-12 Perfluorodecyl Bromide

Revised 19-December-2009

1. PRODUCT AND COMPANY IDENTIFICATION

Material Identification:

Product name: TBr-12

Chemical names: 1-Bromopentacosafuorododecane;
Perfluorododecyl bromide;
1-Bromo-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,
11,12,12,12-pentacosafuorodecane;
Pentacosafuorodecyl bromide

Chemical formula: $\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{Br}$
 $\text{C}_{12}\text{BrF}_{25}$

Company Identification:

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2. COMPOSITION AND INFORMATION ON COMPONENTS

Material	Molecular Weight	EINECS #	CAS #
Perfluorododecyl bromide	698.99	Not available	67193-90-2

3. HAZARDS IDENTIFICATION

Emergency Overview:

Irritant: irritating to eyes, respiratory system and skin.

For additional information on toxicity, please refer to Section 11.

4. FIRST AID MEASURES

Potential Effects Of Exposure:

Oral:	If swallowed, wash out mouth with water provided person is conscious. Call a physician.
Inhalation:	Remove from exposure area and lie down. If breathing is difficult give oxygen. Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the side recovery position. When symptoms persist, or in all cases of doubt, seek medical advice. If not breathing, give artificial respiration.
Eye Contact:	Flush with copious amounts of water for at least 15 minutes. If irritation persists, seek medical attention.
Skin Contact:	Remove contaminated clothing. Wash affected area with soap and water. Rinse thoroughly. If irritation persists or other symptoms are observed, seek medical advice.

5. FIRE FIGHTING MEASURES

Flash Point:	87.9 °C (closed cup).
Firefighting	Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.
Extinguishing Medium:	Suitable: water spray, carbon dioxide, dry chemical powder, or appropriate foam.
Hazardous Products of Combustion May Include:	Carbon monoxide, carbon dioxide, hydrogen fluoride (hydrofluoric acid), hydrogen bromide (hydrobromic acid).

6. ACCIDENTAL RELEASE MEASURES

Personal Protection:	Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. Evacuate personnel to safe areas.
Environmental Protection:	Take precautions to ensure product does not contaminate the ground or enter the drainage system.
Spill Clean-Up	Mix with vermiculite or proprietary absorbent material and transfer to sealed containers for disposal.

7. HANDLING AND STORAGE

Safe Handling:	Avoid formation of respirable particles. Do not breathe vapors or spray mist. Wash hands immediately after handling the product. Advice on protection against fire and explosion: do not spray on a naked flame or any other incandescent material.
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Storage: Store in tightly sealed containers in a cool, well-ventilated place.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Fire And Explosion Protection: Do not spray on a naked flame or any other incandescent material. Store in tightly sealed containers in a cool, well-ventilated place.

Engineering Controls Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (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.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

General Hygiene Measures Wash thoroughly after handling. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point	221.8 °C at 760 mm Hg
Molecular Weight	698.99
Form	Clear, colorless liquid
Flash Point	87.9 °C (closed cup)
Melting Point	87-88 °C
Density	1.856 g/mL @ 25 °C
Refractive Index	1.293 @ 25 °C
Solubility in Water	Negligible

10. STABILITY AND REACTIVITY

Conditions to Avoid:	Processing temperature > 200 °C
Materials to Avoid:	Strong oxidizing agents
Hazardous Reactions:	None reasonably foreseeable

11. TOXICOLOGICAL INFORMATION

Route Of Exposure

Skin Contact: Causes skin irritation.

Multiple Routes: Vapor or mist is irritating to the eyes, mucous membranes, and upper respiratory tract. May be harmful by inhalation, ingestion, or skin absorption.

Signs And Symptoms Of Exposure

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

thoroughly investigated.

Toxicity Data

The toxicological properties of this material have not been fully investigated.

12. ECOLOGICAL EFFECT

General

Prevent chemicals from entering the ground, water courses, or drainage system.

13. DISPOSAL CONSIDERATIONS

Disposal:

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14. TRANSPORTATION INFORMATION

Mode	DOT/IMDG/IATA
UN Number	None – non-hazardous
Class (Subsidiary)	None – non-hazardous
Proper Shipping Name	None – non-hazardous
Hazard Label (Subsidiary)	None – non-hazardous
Packing Group	None – non-hazardous
Shipping Hazard Label	None – non-hazardous

15. REGULATORY INFORMATION

EINECS Number:	Not available
UN Number:	None – non-hazardous
CAS Number:	67193-90-2
SARA Listed:	No
DSL:	No
NDSL:	No

16. OTHER INFORMATION

Legal Disclaimer:

For R&D use only. 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 MSDS