

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Tris(pentafluorophenyl)borane

**Product Code:** BO-OMX-04

**CAS Number:** 1109-15-5

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin irritation (Category 2), H315

GHS Label elements, including precautionary statements

Pictogram



Signal Word Warning

Hazard statement(s)

H315 Causes skin irritation.

Precautionary statement(s)

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

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

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Synonyms : Octyltriethoxysilane

Formula : C<sub>14</sub>H<sub>32</sub>O<sub>3</sub>Si

Molecular weight : 276.49 g/mol

CAS-No. : 2943-75-1

EC-No. : 220-941-2

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## SECTION 4. FIRST AID MEASURES

Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>) Dry powder

Unsuitable extinguishing media

Foam Water

Special hazards arising from the substance or mixture

Carbon oxides

silicon oxides

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire

extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®).

Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13.

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## **SECTION 7. HANDLING AND STORAGE**

Precautions for safe handling

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed.

Moisture sensitive. Store under inert gas.

Storage class

Storage class (TRGS 510): 10: Combustible liquids

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Control parameters

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use

Body Protection

protective clothing

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

a) Appearance Form: liquid

Color: colorless

b) Odor No data available

c) Odor Threshold No data available

d) pH No data available

e) Melting

point/freezing point

Melting point/range: -75 °C (-103 °F) at 1,013 hPa - OECD Test

Guideline 102

f) Initial boiling point

and boiling range

84 - 85 °C 183 - 185 °F at 0.7 hPa - lit.

g) Flash point 100 °C (212 °F) - closed cup

h) Evaporation rate No data available

i) Flammability (solid,

gas)

No data available

j) Upper/lower

flammability or

explosive limits

No data available

k) Vapor pressure No data available

l) Vapor density No data available

m) Density 0.88 g/cm<sup>3</sup> at 25 °C (77 °F) - lit.

Relative density No data available

n) Water solubility 0.13 g/l at 22.8 °C (73.0 °F) - OECD Test Guideline 105 -

slightly soluble

o) Partition coefficient:

n-octanol/water

No data available

p) Autoignition

temperature

225 °C (437 °F) at 1,008.9 - 1,020.8 hPa

q) Decomposition

temperature

No data available

r) Viscosity 1.68 mm<sup>2</sup>/s at 20 °C (68 °F) - OECD Test Guideline 114 -

s) Explosive properties No data available

t) Oxidizing properties No data available

Other safety information

No data available

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## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Violent reactions possible with:

Water

Strong oxidizing agents

Bases

acids

Conditions to avoid

Strong heating.

Incompatible materials

No data available

Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female -  $\geq 5,110$  mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h -  $> 22$  ppm

(OECD Test Guideline 403)

LD50 Dermal - Rabbit - male - 6,730 mg/kg

(OECD Test Guideline 402)

LD50 Dermal - Rabbit - female -  $> 8,000$  mg/kg

(OECD Test Guideline 402)

No data available

#### Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin.

(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

#### Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: Not a skin sensitizer.

(OECD Test Guideline 406)

#### Germ cell mutagenicity

Test Type: reverse mutation assay

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)

Result: negative

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
Test Type: In vitro mammalian cell gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
Carcinogenicity  
No data available  
IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
NTP: No ingredient 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 on OSHA's list of regulated carcinogens.  
Reproductive toxicity  
No data available  
Developmental Toxicity- Rat- Oral  
Specific target organ toxicity - single exposure  
No data available  
Specific target organ toxicity - repeated exposure  
No data available  
Aspiration hazard  
No data available  
Additional Information  
Repeated dose toxicity - Rat - male and female - NOAEL (No observed adverse effect level) - 300 mg/kg  
RTECS: VV6695500  
Contact with eyes can cause:, Redness, Blurred vision, Provokes tears., Prolonged or repeated contact with skin may cause:, defatting, Dermatitis, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  
Stomach - Irregularities - Based on Human Evidence  
Stomach - Irregularities - Based on Human Evidence

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## SECTION 12. ECOLOGICAL INFORMATION

Toxicity  
Toxicity to fish flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - > 0.055 mg/l - 96 h  
(OECD Test Guideline 203)  
Toxicity to daphnia  
and other aquatic  
invertebrates  
flow-through test EC50 - Daphnia magna (Water flea) - > 0.049 mg/l - 48 h  
(OECD Test Guideline 202)  
Toxicity to algae static test EC50 - Pseudokirchneriella subcapitata (green algae) - > 0.13 mg/l - 72 h  
(OECD Test Guideline 201)  
Toxicity to bacteria EC50 - activated sludge - > 1,000 mg/l - 3 h

(OECD Test Guideline 209)  
Persistence and degradability  
Biodegradability aerobic - Exposure time 28 d  
Result: 31.5 % - Not readily biodegradable.  
(OECD Test Guideline 301D)  
Bioaccumulative potential  
No data available  
Mobility in soil  
No data available  
Results of PBT and vPvB assessment  
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted  
Endocrine disrupting properties  
No data available  
Other adverse effects  
No data available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods  
Product  
Waste material must be disposed of in accordance with the national and local regulations.  
Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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## **SECTION 14. TRANSPORT INFORMATION**

DOT (US)  
Not dangerous goods  
IMDG  
Not dangerous goods  
IATA  
Not dangerous goods  
Further information  
Not classified as dangerous in the meaning of transport regulations.

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## **SECTION 15. REGULATORY INFORMATION**

SARA 302 Components  
This material does not contain any components with a section 302 EHS TPQ.  
SARA 313 Components  
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.  
SARA 311/312 Hazards  
Acute Health Hazard, Chronic Health Hazard  
Massachusetts Right To Know Components  
No components are subject to the Massachusetts Right to Know Act.

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.