SAFETY DATA SHEET

1. IDENTIFICATION
Product name: 4,4,5,5-Tetramethyl-1,3,2-dioxaborolane
Product code: T2572
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Revision number: 1

2. HAZARDS IDENTIFICATION
Classification of the substance or mixture

PHYSICAL HAZARDS
- Flammable liquids: Category 2
- Substances and mixtures which, in contact with water, emit flammable gases: Category 2

HEALTH HAZARDS
Not classified

ENVIRONMENTAL HAZARDS
Not classified

Label elements
Pictograms or hazard symbols

Signal word: Danger
Hazard statements:
- Highly flammable liquid and vapour
- In contact with water releases flammable gases

Precautionary statements

[Prevention]
- Keep away from heat, sparks, open flames and hot surfaces. -No smoking.
- Do not allow contact with water.
- Handle under inert gas. Protect from moisture.
- Keep container tightly closed.
- Ground and bond container and receiving equipment.
- Use explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.
- Wear protective gloves, eye protection.

[Response]
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- Brush off loose particles from skin. Immerse in cool water or wrap with wet bandages.
- In case of fire: Use dry chemical or dry sand to extinguish.

[Storage]
- Store in a dry place. Store in a closed container.
- Store in a well-ventilated place. Keep cool.

[Disposal]
- Dispose of contents and container in accordance with local, regional, national regulations.
3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture: Substrate
Components: 4,4,5,5-Tetramethyl-1,3,2-dioxaborolane
Percent: >97.0%(GC)
CAS RN: 25015-63-8
Synonyms: Pinacol Borane
Chemical Formula: C₆H₁₃BO₂

4. FIRST AID MEASURES

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

Skin contact: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention.

Eye contact: 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/attention.

Ingestion: Get medical advice/attention if you feel unwell. Rinse mouth.

Protection of first-aiders: A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry chemical, dry sand.

Unsuitable extinguishing media: Water

Specific hazards arising from the chemical: Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.

Precautions for firefighters: Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Keep containers cool by spraying with water but NO direct contact with water. Eliminate all ignition sources if safe to do so.

Special protective equipment for firefighters: When extinguishing fire, be sure to wear personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use extra personal protective equipment (self-contained breathing apparatus). Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.

Environmental precautions: Prevent product from entering drains.

Methods and materials for containment and cleaning up: Absorb spilled material in dry sand or inert absorbent before recovering it into an airtight container. In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

Prevention of secondary hazards: Do not allow contact with water. Remove all sources of ignition. Fire-extinguishing devices should be prepared in case of a fire. Use spark-proof tools and explosion-proof equipment. Since there is a possibility of igniting behind when removal of a leakage thing is imperfect, it is careful enough.
7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures: Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapour or mist. Keep away from heat/sparks/open flame/hot surfaces. -No smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Wash hands and face thoroughly after handling.

Advice on safe handling: Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated.

Avoid contact with skin, eyes and clothing.

Keep away from any possible contact with water, because of violent reaction and possible flash fire.

Use well-dried equipment.

Handle under inert gas.

Don't leave used equipment or rag. This product may ignite if it is left stuck on combustibles such as paper, rags, etc.

Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed. Store in a cool, dark and well-ventilated place.

Store under inert gas.

Protect from moisture.

Store away from incompatible materials such as oxidizing agents.

Moisture-sensitive

Packaging material: Comply with laws.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Install a closed system or local exhaust. Also install safety shower and eye bath.

Personal protective equipment

Respiratory protection: Vapor respirator. Follow local and national regulations.

Hand protection: Protective gloves.

Eye protection: Safety glasses. A face-shield, if the situation requires.

Skin and body protection: Protective clothing. Protective boots, if the situation requires.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C): Liquid

Form: Clear

Colour: Colorless - Very pale yellow

Odour: No data available

pH: No data available

Melting point/freezing point: No data available

Boiling point/range: 43°C /6.7kPa

Flash point: 5°C

Flammability or explosive limits:

Lower: No data available

Upper: No data available

Relative density: 0.89

Solubility(ies):

[Water] No data available

[Other solvents] No data available

10. STABILITY AND REACTIVITY

Chemical stability: Stable under proper conditions.

Possibility of hazardous reactions: May spontaneously ignite or release flammable gases when in contact with water.

Conditions to avoid: Spark, Open flame, Static discharge, Moisture

Incompatible materials: Oxidizing agents, Acids, Water

Hazardous decomposition products: Carbon dioxide, Carbon monoxide, Boron oxides
11. TOXICOLOGICAL INFORMATION

Acute Toxicity: No data available
Skin corrosion/irritation: No data available
Serious eye damage/irritation: No data available
Germ cell mutagenicity: No data available
Carcinogenicity:
  IARC = No data available
  NTP = No data available
Reproductive toxicity: No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity:
  Fish: No data available
  Crustacea: No data available
  Algae: No data available
  Persistence / degradability: No data available
  Bioaccumulative potential (BCF): No data available
  Mobility in soil
    Log Pow: No data available
    Soil adsorption (Koc): No data available
    Henry's Law (Pa*M^3/mol): No data available

13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. Take precautions against ignition. Observe all federal, state and local regulations when disposing of the substance.

14. TRANSPORT INFORMATION

Hazard Class: 4.3: Substance which, in contact with water, emit flammable gases.
Subsidiary risk: 3: Flammable liquid.
UN-No: 3399
Proper shipping name: Organometallic substance, liquid, water-reactive, flammable
Packing group: II

15. REGULATORY INFORMATION

Regulations on the Control over Safety of Dangerous Chemicals (State Council announces on January 26, 2002 and revised on February 16, 2011): Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.

16. OTHER INFORMATION

The reference company name of written contents
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Department: Technical Information Department
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This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.