



# Material Safety Data Sheet

|                     |  |               |   |             |   |            |   |  |
|---------------------|--|---------------|---|-------------|---|------------|---|--|
| <b>NFPA</b><br><br> | <b>HMIS</b><br><br><table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; font-weight: bold;">3</td> </tr> <tr> <td style="background-color: #FFC0CB;">Fire Hazard</td> <td style="text-align: center; font-weight: bold;">0</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; font-weight: bold;">2</td> </tr> </table> | Health Hazard | 3 | Fire Hazard | 0 | Reactivity | 2 | <b>Personal Protective Equipment</b><br><br><p style="text-align: center;">See Section 15.</p> |
| Health Hazard       | 3  |               |   |             |   |            |   |  |
| Fire Hazard         | 0  |               |   |             |   |            |   |  |
| Reactivity          | 2  |               |   |             |   |            |   |  |

| Section 1. Chemical Product and Company Identification |  | Page Number: 1  |
|--|--|---|
| <b>Common Name/Trade Name</b>                          | Phosphorus tribromide  | <b>Catalog Number(s).</b> P1129   |
| <b>Manufacturer</b>                                    | SPECTRUM CHEMICAL MFG. CORP.<br>14422 S. SAN PEDRO STREET<br>GARDENA, CA 90248 | <b>CAS#</b> 7789-60-8   |
|  |  | <b>RTECS</b> TH4460000  |
|  |  | <b>TSCA</b> TSCA 8(b) inventory:<br>Phosphorus tribromide                                     |
|  |  | <b>CI#</b> Not available.   |
| <b>Commercial Name(s)</b>                              | Not available.   | <b>IN CASE OF EMERGENCY</b><br><b>CHEMTREC (24hr) 800-424-9300</b><br><br>CALL (310) 516-8000 |
| <b>Synonym</b>   | Not available.   |   |
| <b>Chemical Name</b>                                   | Not available.   |   |
| <b>Chemical Family</b>                                 | Not available.   |   |
| <b>Chemical Formula</b>                                | PBr <sub>3</sub>   |   |
| <b>Supplier</b>  | SPECTRUM CHEMICAL MFG. CORP.<br>14422 S. SAN PEDRO STREET<br>GARDENA, CA 90248 |   |

| Section 2. Composition and Information on Ingredients |  |                          |                           |                           |             |
|---|--|--------------------------|---------------------------|---------------------------|-------------|
| Name  | CAS #  | Exposure Limits          |                           |                           | % by Weight |
|   |  | TWA (mg/m <sup>3</sup> ) | STEL (mg/m <sup>3</sup> ) | CEIL (mg/m <sup>3</sup> ) |             |
| 1) Phosphorus tribromide                              | 7789-60-8  |                          |                           |                           | 100         |
| <b>Toxicological Data on Ingredients</b>              | <b>Phosphorus tribromide</b><br>LD50: Not available.<br>LC50: Not available. |                          |                           |                           |             |

| Section 3. Hazards Identification     |   |
|---------------------------------------|---|
| <b>Potential Acute Health Effects</b> | <p>Extremely hazardous in case of skin contact (corrosive, irritant), of eye contact (irritant), of ingestion, of inhalation. Very hazardous in case of skin contact (permeator). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.</p> |

**Continued on Next Page**

|   |   |
|---|---|
| <b>Potential Chronic Health Effects</b> | Extremely hazardous in case of skin contact (corrosive, irritant), of eye contact (irritant), of ingestion, of inhalation. Very hazardous in case of skin contact (permeator).<br><b>CARCINOGENIC EFFECTS:</b> Not available.<br><b>MUTAGENIC EFFECTS:</b> Not available.<br><b>TERATOGENIC EFFECTS:</b> Not available.<br><b>DEVELOPMENTAL TOXICITY:</b> Not available.<br>Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated or prolonged inhalation of vapors may lead to chronic respiratory irritation. |
|---|---|

#### Section 4. First Aid Measures

|                             |  |
|-----------------------------|--|
| <b>Eye Contact</b>          | Check for and remove any contact lenses. Do not use an eye ointment. Seek medical attention.   |
| <b>Skin Contact</b>         | If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical got on the victim's exposed skin, such as the hands : Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. If irritation persists, seek medical attention. Wash contaminated clothing before reusing. |
| <b>Serious Skin Contact</b> | Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.  |
| <b>Inhalation</b>           | Allow the victim to rest in a well ventilated area. Seek immediate medical attention.  |
| <b>Serious Inhalation</b>   | Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. <b>WARNING:</b> It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.  |
| <b>Ingestion</b>            | Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.  |
| <b>Serious Ingestion</b>    | Not available.   |

#### Section 5. Fire and Explosion Data

|  |   |
|--|---|
| <b>Flammability of the Product</b>                         | Non-flammable.  |
| <b>Auto-Ignition Temperature</b>                           | Not applicable.   |
| <b>Flash Points</b>  | Not applicable.   |
| <b>Flammable Limits</b>                                    | Not applicable.   |
| <b>Products of Combustion</b>                              | Not available.  |
| <b>Fire Hazards in Presence of Various Substances</b>      | Not applicable.   |
| <b>Explosion Hazards in Presence of Various Substances</b> | Risks of explosion of the product in presence of mechanical impact: Not available.<br>Risks of explosion of the product in presence of static discharge: Not available. |
| <b>Fire Fighting Media and Instructions</b>                | Not applicable.   |
| <b>Special Remarks on Fire Hazards</b>                     | Not available.  |
| <b>Special Remarks on Explosion Hazards</b>                | Not available.  |

**Section 6. Accidental Release Measures**

|                    |  |
|--------------------|--|
| <b>Small Spill</b> | Absorb with an inert material and put the spilled material in an appropriate waste disposal.   |
| <b>Large Spill</b> | Corrosive liquid.<br>Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. |

**Section 7. Handling and Storage**

|                    |   |
|--------------------|---|
| <b>Precautions</b> | Keep container dry. Do not breathe gas/fumes/ vapour/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as alkalis, moisture. |
| <b>Storage</b>     | Corrosive materials should be stored in a separate safety storage cabinet or room.  |

**Section 8. Exposure Controls/Personal Protection**

|   |   |
|---|---|
| <b>Engineering Controls</b>                         | Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.   |
| <b>Personal Protection</b>                          | Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.   |
| <b>Personal Protection in Case of a Large Spill</b> | Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. |
| <b>Exposure Limits</b>                              | Not available.  |

**Section 9. Physical and Chemical Properties**

|                                      |                          |              |                            |
|--------------------------------------|--------------------------|--------------|----------------------------|
| <b>Physical state and appearance</b> | Liquid. (Fuming liquid.) | <b>Odor</b>  | Pungent. (Strong.)         |
| <b>Molecular Weight</b>              | 270.72 g/mole            | <b>Taste</b> | Not available.             |
| <b>pH (1% soln/water)</b>            | Not available.           | <b>Color</b> | Colorless to light yellow. |
| <b>Boiling Point</b>                 | 173°C (343.4°F)          |              |                            |
| <b>Melting Point</b>                 | -40°C (-40°F)            |              |                            |
| <b>Critical Temperature</b>          | Not available.           |              |                            |
| <b>Specific Gravity</b>              | 2.852 (Water = 1)        |              |                            |
| <b>Vapor Pressure</b>                | Not available.           |              |                            |
| <b>Vapor Density</b>                 | 9.3 (Air = 1)            |              |                            |
| <b>Volatility</b>                    | Not available.           |              |                            |
| <b>Odor Threshold</b>                | Not available.           |              |                            |
| <b>Water/Oil Dist. Coeff.</b>        | Not available.           |              |                            |
| <b>Ionicity (in Water)</b>           | Not available.           |              |                            |
| <b>Dispersion Properties</b>         | Not available.           |              |                            |
| <b>Solubility</b>                    | Not available.           |              |                            |

**Section 10. Stability and Reactivity Data**

|   |  |
|---|--|
| Stability                               | The product is stable.                                     |
| Instability Temperature                 | Not available.   |
| Conditions of Instability               | Not available.   |
| Incompatibility with various substances | Extremely reactive or incompatible with alkalis, moisture. |
| Corrosivity                             | Non-corrosive in presence of glass.                        |
| Special Remarks on Reactivity           | Not available.   |
| Special Remarks on Corrosivity          | Not available.   |
| Polymerization                          | No.  |

**Section 11. Toxicological Information**

|  |  |
|--|--|
| Routes of Entry                                  | Dermal contact. Eye contact. Inhalation. Ingestion.  |
| Toxicity to Animals                              | LD50: Not available.<br>LC50: Not available.   |
| Chronic Effects on Humans                        | Not available.   |
| Other Toxic Effects on Humans                    | Extremely hazardous in case of skin contact (corrosive, irritant), of ingestion, of inhalation.<br>Very hazardous in case of skin contact (permeator). |
| Special Remarks on Toxicity to Animals           | Not available.   |
| Special Remarks on Chronic Effects on Humans     | Not available.   |
| Special Remarks on other Toxic Effects on Humans | Not available.   |

**Section 12. Ecological Information**

|   |   |
|---|---|
| Ecotoxicity                                       | Not available.  |
| BOD5 and COD                                      | Not available.  |
| Products of Biodegradation                        | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. |
| Toxicity of the Products of Biodegradation        | The products of degradation are as toxic as the original product.   |
| Special Remarks on the Products of Biodegradation | Not available.  |

**Section 13. Disposal Considerations**

Waste Disposal

**Section 14. Transport Information**

**DOT Classification** CLASS 8: Corrosive liquid.

**Identification** : Phosphorous tribromide : UN1808 PG: II

**Special Provisions for Transport** Not available.

**DOT (Pictograms)**



**Section 15. Other Regulatory Information and Pictograms**

**Federal and State Regulations** TSCA 8(b) inventory: Phosphorus tribromide

**California Proposition 65 Warnings**

**Other Regulations** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications** **WHMIS (Canada)** CLASS E: Corrosive liquid.

**DSCL (EEC)** R14- Reacts violently with water.  
R35- Causes severe burns.

**HMIS (U.S.A.)**

|                     |   |
|---------------------|---|
| Health Hazard       | 3 |
| Fire Hazard         | 0 |
| Reactivity          | 2 |
| Personal Protection | 0 |

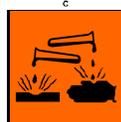
**National Fire Protection Association (U.S.A.)**

Health Flammability  
Reactivity  
Specific hazard

**WHMIS (Canada) (Pictograms)**



**DSCL (Europe) (Pictograms)**



**TDG (Canada) (Pictograms)**



**ADR (Europe)  
(Pictograms)**



**Protective Equipment**



Gloves.



Full suit.



Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Face shield.

**Section 16. Other Information**

**MSDS Code** P3715

**References** Not available.

**Other Special Considerations** Not available.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

Printed 9/13/2006.

CALL (310) 516-8000

**Notice to Reader**

*All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.*