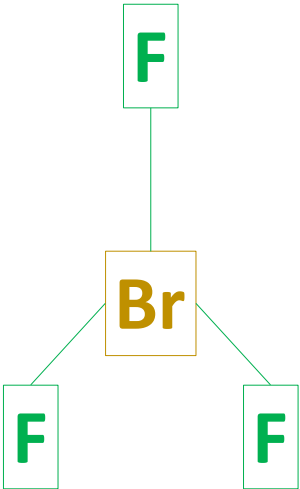


## Chemical of the Week – Part 2

| Hazard Profile                                 |                                                                 |
|------------------------------------------------|-----------------------------------------------------------------|
| Chemical Name and Pseudonyms                   | Bromine trifluoride, Bromine fluoride, Trifluor-lambda2-bromane |
| UN Number                                      | 1746                                                            |
| Chemical Formula                               | BrF <sub>3</sub>                                                |
| Hazards                                        | Toxic by inhalation, oxidizer, corrosive,                       |
| NFPA Hazard Class ( <b>H-F-R-©</b> )           | <b>4 - 0 - 3 - W OX</b>                                         |
| PPE Considerations                             | Flash protective CPC with SCBA based on assignment              |
| Fire Fighting Considerations                   | CO <sub>2</sub> , dry chem. Do <b>NOT</b> use water             |
| Decontamination                                | Isolation and disposal                                          |
| Detection and Monitoring                       | Colorimetric, spectroscopy                                      |
| Chemical and Physical Properties               |                                                                 |
| Physical State                                 | Colorless yellow fuming liquid. Solid <48°F                     |
| Vapor Pressure                                 | 18 mm/Hg                                                        |
| Boiling Point                                  | 258°F                                                           |
| Vapor Density                                  | -                                                               |
| Specific Gravity                               | 2.8                                                             |
| Miscibility                                    | Reacts violently with water                                     |
| Flash Point                                    | -                                                               |
| LEL/UEL                                        | - / -                                                           |
| Autoignition Temp                              | -                                                               |
| pH                                             | -                                                               |
| Toxicity                                       |                                                                 |
| IDLH                                           | 12 ppm                                                          |
| LC50                                           | 7.5 ppm                                                         |
| LD50                                           | .5 mg/kg                                                        |
| AEGL1/AEGL 2/AEGL (10 Min)                     | .12 / 8.1 / 84                                                  |
| Emergency Response Planning Guide (ERPG) 1/2/3 | - / - / -                                                       |
| Protective Action Criteria (PAC) 1/2/3         | .12 / 2 / 21 ppm                                                |
| PEL/REL/STEL                                   | 2.5 / 2.5 / 2.5 mg/m <sup>3</sup>                               |
| Radioactive (Yes/No)                           | No                                                              |
| Medical                                        |                                                                 |
| Toxicological Considerations                   | Toxic by inhalation and ingestion, corrosive to skin and eyes   |
| Signs/Symptoms of Exposure                     | Respiratory/skin/eye irritation, CNS s/s, cardiac s/s           |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Medical Treatment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Fresh air, water flush, treat symptomatically. |
| <b>Other Information</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                |
| <p>Very reactive oxidizing agent. Reacts violently on contact with water to evolve oxygen. Accelerates the burning of combustible material. Mixing with the following is likely to cause a fire or explosion: acetic acid, ammonia, benzene, ethanol, 2-pentanone, hydrogen, hydrogen sulfide, methane, cork, grease paper, wax. Mixing with acids, halogens, ammonium halides, metal halides, metals, nonmetals, or metal oxides at ambient or slightly above ambient temperatures has resulted in violent reactions. Reacts with nitric acid, sulfuric acid, chlorine, iodine, ammonium chloride, potassium iodide, boron powder, selenium, tellurium, aluminum powder, bismuth, cobalt powder, iron powder, arsenic, nickel powder, chromium trioxide, charcoal, red phosphorus, sulfur dioxide, magnesium oxide.</p> |                                                |
| <b>Chemical Structure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                |
|  <p>The diagram shows the chemical structure of bromine trifluoride (BrF<sub>3</sub>). A central bromine atom (Br) is enclosed in a yellow box. It is bonded to three fluorine atoms (F), each enclosed in a green box. One fluorine atom is positioned above the bromine atom, and the other two are positioned below it, forming a T-shaped arrangement.</p>                                                                                                                                                                                                                                                                                                                                                                         |                                                |