Honeywell

PRODUCT STEWARDSHIP SUMMARY

Copper tetrafluoroborate solution 50 %

$Cu(BF_4)_2$ / H_2O 50% solution

Chemical Name:	Copper(II) fluoborate
Synonyms:	Borate(1-), tetrafluoro-, copper(2+) (2:1), copper(2+) ditetrafluoroborate, copper(2+) tetrafluoroborate(1-), Copper(II) Tetrafluoroborate (ca. 45% in Water), copper(2+) bis(tetrafluoroboranuide)
CAS Number:	38465-60-0
CAS Name:	
EC (EINECS) Number:	253-959-4
Last Revision Date:	February 2019

- Copper tetrafluoroborate solution 50% is commonly used in industrial settings as an electroplating material as well as to print circuit boards for electronics. In organic chemistry laboratories, it is used to support the completion of synthetic reactions such as the Diels-Alder.

- Given its uses, the primary exposure to this chemical occurs in the industrial setting. However, exposure can also occur to research scientists working in laboratories. Exposure can be mainly by inhalation and skin contact. Good manufacturing and industrial hygiene practices should be followed to prevent or reduce exposure. Workplace exposure limits for the components of this product have been established for use in worksite safety programs. See the Safety Data Sheet (SDS) for additional information.

- Copper tetrafluoroborate solution 50% is a blue-green, odorless liquid mixture, completely soluble in water and stable under normal conditions. It is corrosive to metals. This mixture is predominantly composed of 50% copper tetrafluoroborate and 45%water, with tetrafluoroboric acid and fluoroborates composing the remaining 5%.

- It is harmful if swallowed and can cause irritation of the respiratory tract if inhaled. It causes severe skin burns and eye damage. In contact with fire, copper tetrafluoroborate solution 50% decomposes to release hazardous hydrogen fluoride, as well as boron and copper oxides. The health effects of the release of free fluoride ion from fluoroborate that make up this mixture

is similar to that of dilute hydrofluoric acid. Exposure to large areas of skin, ingestion and significant inhalation exposure to this product can release fluoride ions that can cause severe systemic effects including hypocalcemia, hypomagnesemia and hyperkalemia resulting in electrolyte imbalance and cardiac arrhythmias.

- Copper poisoning can cause liver damage, interfere with the ability of the blood to transport oxygen, and produce anemia possibly leading to kidney failure.

- Studies in rodents have shown that high oral doses of copper can be toxic to a fetus and cause developmental effects. However, there are no known reproductive effect associated with this product.

- There are no known genotoxic or carcinogenic hazards associated with this product. Components of this product are not considered a known or anticipated carcinogen by OSHA, NTP or IARC

- Copper tetrafluoroborate solution 50% is considered harmful to aquatic organisms. It is an inorganic substance and, therefore, biodegradability data is not relevant. However, discharge into the environment should be avoided and this product not be flushed into surface water or sanitary sewer systems. Instead, it should be disposed of properly to an approved waste disposal plant.

- Please **contact us** for more information. Additional information may also be found at the following links:

  European Chemicals Agency- Substance Information - Copper tetrafluoroborate

  Pubchem – Copper fluoroborate

  Haz-Map – Copper(II) fluoborate

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