Honeywell

## PRODUCT STEWARDSHIP SUMMARY

# Phosphorous acid, Phosphonic acid

$H_3O_3P$

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|---|---|
| Chemical Name: | Phosphorous acid, Phosphonic acid |
| Synonyms: | Dihydroxyphosphine oxide; Orthophosphorus acid; Phosphorous acid; Phosphorus trihydroxide; Trihydroxyphosphine; Phosphonic acid; [ChemIDplus] |
| CAS Number: | 13598-36-2 |
| CAS Name: | Phosphonic acid |
| EC (EINECS) Number: | 237-066-7 |
| Last Revision Date: | February 2019 |

- Phosphorus or phosphonic acid is used to test for mercury inorganic contaminants, as a chemical reducing agent, and to prepare phosphite salts. It is also a common starting material to make lead phosphite which is a PVC stabilizer. Dilute phosphonic acid and modified phosphonic acid can also be used as corrosion and scaling inhibitors in cooling water systems used to purify and treat water for human consumption as well as other applications that utilize highly purified water such as drug manufacturing facilities. As countries around the world continue to modernize, it is anticipated that the need for phosphonic acid will continue to grow as more water will need to be treated to meet the needs of their citizens.

- Exposure to phosphorus/phosphonic acid varies depending on its use and is most common in those who work in heavily industrial settings such as drug or chemical manufacturing plants or water treatment facilities. It may be spilled on the skin, brought into contact with mucous membranes in the mouth, or inhaled. Exposure to the general public is much less common but can occur in contact with treated water or commercial cleaning and degreasing products whose composition includes highly diluted phosphorus or phosphonic acid. Good manufacturing and industrial hygiene practices should be followed to prevent or reduce exposure. See the Safety Data Sheet (SDS) for additional information. Users of products containing phosphorus/ phosphonic acid should follow manufacturer's use and/or label instructions.

- As a colorless solid, phosphorus/phosphonic acid is highly soluble in water. It should be stored carefully in its original container as it is highly corrosive to metals. It is nonflammable. However, in contact with fire, phosphorus/phosphonic acid can decompose to hazardous compounds such as phosphorus pentoxide.

- Concentrated phosphorus/phosphonic acid is very corrosive and direct contact with the skin should be avoided as it can cause severe skin burns and corrosion as well as eye damage. It is harmful if swallowed and can damage the mucosal lining of the mouth, throat, and esophagus.

- There are no currently known neurotoxic, reproductive, genotoxic, or carcinogenic hazards associated with phosphorus/phosphonic acid.

- Phosphorus/phosphonic acid can be toxic to environmental organisms at very high concentrations. However, when diluted, its damage to aquatic organisms is greatly decreased.

- Due to its highly corrosive nature, phosphorus or phosphonic acid must be specially labeled when transported abroad via land, air, or sea.

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

  **Cooling Water Treatment Chemicals Market: Latest Trends and Insights 2024**

  **Hazmap Phosphorous Acid**

  **USA Health and Human Services Household Products Database – phosphorus acid**

  **ChemID Plus – phosphorus acid**



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