

July 29, 2004

MATERIAL SAFETY DATA SHEET

[CAUTION: The identity of this substance may be proprietary to Starks Associates, Inc. and to National Institute of Allergy and Infectious Diseases]

-----IDENTIFICATION-----

Chemical Name: Phosphonic acid, [[[1R)-2-(6-amino-9H-purin-9-yl)-1-methylethoxy]methyl]-, monohydrate

Other Name: Tenofovir monohydrate

Starks Reference No: NB22-104-3

Chemical Formula: $C_9H_{14}N_5O_4P \cdot H_2O$

-----CAS REGISTRY NUMBER(S)-----

CAS #: 147127-20-6 (anhydrous form)

-----HEALTH HAZARD DATA-----

No applicable information for CAS# 147127-20-6 was found; avoid any contact with skin, eyes, or lungs.

-----PRIMARY ROUTE(S) OF ENTRY (Accidental Exposure)-----

No applicable information was found; prevent all accidental exposure to skin, eyes, or lungs.

-----PHYSICAL AND CHEMICAL CHARACTERISTICS-----

White solid; melting point 280-282°C (uncorrected); soluble in H₂O; moderately soluble in methanol or ethanol; insoluble in acetone, ethyl acetate or methylene chloride.

-----PHYSICAL HAZARDS-----

No applicable information was found; as with most organic powders, dust explosion may be possible when powder is suspended in air.

-----EXPOSURE LIMIT-----

No specifically applicable information was found; advisable to avoid exposure to skin, eyes or lungs.

-----NTP, IARC, OSHA-----

No entries were found. To the best of our knowledge, the potential carcinogenic properties of this material are not known.

-----PRECAUTIONS FOR SAFE HANDLING-----

This product should be handled only by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of many compounds are not yet well defined.

Appropriate Hygiene Practices

Avoid personal contact through ingestion, inhalation, contact with eyes or skin.

Protective Measures During Repair or Maintenance of Contaminated Equipment

No applicable information was found.

Steps to be taken if material is released or spilled

Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves.

Sweep up, place in a bag and hold for waste disposal.

Avoid raising dust.
Ventilate area and wash spill site after material pickup is complete.

Waste disposal method

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Observe all federal, state & local laws.

-----CONTROL MEASURES-----

Engineering Controls

Mechanical exhaust required.

Personal Protective Equipment

Safety glasses or chemical safety goggles.
Impermeable gloves and lab coat. NIOSH/MSHA
approved respirator may be advisable.

-----EMERGENCY AND FIRST AID PROCEDURES-----

In case of contact, immediately flush eyes with copious
amounts of water for at least 15 minutes.

In case of contact, immediately wash skin with soap and
copious amount of water.

If inhaled, remove to fresh air. If not breathing give
artificial respiration. If breathing is difficult, give
oxygen.

Call a physician.

Wash contaminated clothing before reuse or discard.

Information contained herein is based upon observations made
in the course of synthesizing this substance and other
information available to us. We have undertaken no tests to
confirm the accuracy or completeness of this information and
assume no responsibility in this regard.