

PHOS-ZORB

Chemwatch Material Safety Data Sheet
Issue Date: 4-Jan-2006

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

PHOS-ZORB

STATEMENT OF HAZARDOUS NATURE

**CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR
1910.1200.**

SUPPLIER

Company: Aquarium Pharmaceuticals Incorporated
Address:
PO Box 218
Chalfont
PA, 18914-0218
USA
Telephone: +1 215 822 8181
Emergency Tel: +1800 222 1222 (US Only)

Company: Aquarium Pharmaceuticals Incorporated
Address:
50 East Hamilton Street
Chalfont
PA, 18914
USA
Telephone: +1 215 822 8181

PRODUCT USE

Used according to manufacturers directions. For product 109.

SYNONYMS

Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
activated alumina	1344-28-1.	100

Section 3 - HAZARDS IDENTIFICATION

CANADIAN WHMIS SYMBOLS



EMERGENCY OVERVIEW

RISK

Cumulative effects may result following exposure*.
May produce discomfort of the eyes*.

*(limited evidence)

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Section 3 - HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

The material has NOT been classified as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality (death) rather than those producing morbidity (disease, ill-health).

Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, unintentional ingestion is not thought to be cause for concern.

EYE

There is some evidence to suggest that this material can cause eye irritation and damage in some persons.

SKIN

The material is not thought to produce adverse health effects or skin irritation following contact (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

Not normally a hazard due to non-volatile nature of product.

CHRONIC HEALTH EFFECTS

Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Section 4 - FIRST AID MEASURES

SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Center or a doctor.

EYE

- If this product comes in contact with the eyes:
- Wash out immediately with fresh running water.

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Section 4 - FIRST AID MEASURES

- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- If pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

- Manifestation of aluminum toxicity include hypercalcemia, anemia, Vitamin D refractory osteodystrophy and a progressive encephalopathy (mixed dysarthria-apraxia of speech, asterixis, tremulousness, myoclonus, dementia, focal seizures). Bone pain, pathological fractures and proximal myopathy can occur.
- Symptoms usually develop insidiously over months to years (in chronic renal failure patients) unless dietary aluminum loads are excessive.
- Serum aluminum levels above 60ug/ml indicate increased absorption. Potential toxicity occurs above 100 ug/ml and clinical symptoms are present when levels exceed 200 ug/ml.
- Deferoxamine has been used to treat dialysis encephalopathy and osteomalacia. CaNa₂EDTA is less effective in chelating aluminum. [Ellenhorn and Barceloux: Medical Toxicology].

Section 5 - FIRE FIGHTING MEASURES

Flash Point (F): Not Applicable
Lower Explosive Limit (%): Not Applicable
Upper Explosive Limit (%): Not Applicable
Autoignition Temp (F): Not Applicable

EXTINGUISHING MEDIA

- There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for surrounding area.

FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves for fire only.
- Prevent, by any means available, spillage from entering drains or water course.
- Use fire fighting procedures suitable for surrounding area.
- Do not approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Non combustible.

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Section 5 - FIRE FIGHTING MEASURES

- Not considered to be a significant fire risk, however containers may burn.
May emit poisonous fumes.
May emit corrosive fumes.

FIRE INCOMPATIBILITY

None known.

PERSONAL PROTECTION

Glasses:
Chemical goggles.
Gloves:
PVC chemical resistant type.
Respirator:
Particulate

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid breathing dust and contact with skin and eyes.
- Wear protective clothing, gloves, safety glasses and dust respirator.
- Use dry clean up procedures and avoid generating dust.
- Sweep up, shovel up or vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
- Place spilled material in clean, dry, sealable, labeled container.

MAJOR SPILLS

- Moderate hazard.
- CAUTION: Advise personnel in area.
 - Alert Emergency Responders and tell them location and nature of hazard.
 - Control personal contact by wearing protective clothing.
 - Prevent, by any means available, spillage from entering drains or water courses.
 - Recover product wherever possible.
 - IF DRY: Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. IF WET: Vacuum/shovel up and place in labelled containers for disposal.
 - ALWAYS: Wash area down with large amounts of water and prevent runoff into drains.
 - If contamination of drains or waterways occurs, advise emergency services.

ACUTE EXPOSURE GUIDELINE LEVELS (AEG) (in ppm)

AEG 1: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.

AEG 2: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Z Material	US OSHA Permissible Exposure Levels (PELs)		STEL mg/m ³	Peak ppm	Peak mg/m ³	Max excursion ppm	Max excursion mg/m ³	Max excursion ppm	Max excursion mg/m ³
	TWA ppm	TWA mg/m ³							
US - Minnesota Permissible Exposure Limits (PELs)		alpha-Alumina - Respirable fraction			5				
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants		alpha-Alumina - Respirable fraction			5				
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants		alpha-Alumina - Total dust			10				
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants		alpha-Alumina - Respirable fraction			5				
US Tennessee Occupational Exposure Limits - Limits For Air Contaminants		alpha-Alumina - Total dust			10				
US Tennessee Occupational Exposure Limits - Limits For Air Contaminants		alpha-Alumina - Respirable fraction			5				
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants		alpha-Alumina - Total dust			15				
US - Minnesota Permissible Exposure Limits (PELs)		alpha-Alumina - Total dust			10				
US - Washington Permissible exposure limits of air contaminants		alpha-Alumina (Aluminum oxide) - Respirable fraction			5		10		
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances		Alundum (A)I2(O)3			(See Table 11)				
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances		(Corundum (Al)2(O)3()			(See Table 11)				
US - Washington Permissible exposure limits of air contaminants		alpha-Alumina (Aluminum oxide) - Total particulate			10		20		
Canada - British Columbia Occupational Exposure Limits		Aluminum oxide			10 (E)				

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Z	Material	US OSHA Permissible Exposure Levels (PELs)			Peak ppm	Peak mg/m ³	Max excursion	Max excursion	Max excursion
		TWA ppm	TWA mg/m ³	STEL ppm					
	Canada Ontario Occupational Exposure Limits		alpha-Alumina (total dust)			10			
	Canada Ontario Occupational Exposure Limits		Welding fume, not otherwise specified: Aluminum-containing (as Aluminum)			5			

No data for Phos-Zorb.

EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

Composite Exposure Standard for Mixture (TWA) :10 mg/m³.

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

Composite Exposure Standard for Mixture (TWA) (mg/m³):

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

Component Breathing Zone ppm Breathing Zone mg/m³ Mixture Conc (%).

Component	Breathing Zone (mg/m ³)	Mixture Conc (%)
activated alumina	10.0000	100.0

INGREDIENT DATA

ACTIVATED ALUMINA:

as aluminium oxide, containing no asbestos and < 1% crystalline silica

ES TWA: 10 mg/m³ inspirable dust

TLV TWA: 10 mg/m³ total dust A4

NOTE: This substance has been classified by the ACGIH as A4 NOT classifiable as causing Cancer in humans.

MAK value: 6 mg/m³

- measured as the respirable fraction of the aerosol.

The experimental and clinical data indicate that aluminium oxide acts as an "inert" material when inhaled and seems to have little effect on the lungs nor does it produce significant organic disease or toxic effects when exposures are kept under reasonable control.

[Documentation of the Threshold Limit Values], ACGIH, Sixth Edition

PERSONAL PROTECTION

EYE

- Safety glasses with side shields.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

- Chemical goggles.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them. DO NOT wear contact lenses.

HANDS/FEET

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids.

- polychloroprene
- nitrile rubber
- butyl rubber
- fluorocautchouc
- polyvinyl chloride

Gloves should be examined for wear and/ or degradation constantly.

Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. Rubber.

OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

RESPIRATOR

Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
10 x PEL	P1 Air-line*	-	PAPR-P1
50 x PEL	Air-line**	P2	PAPR-P2
100 x PEL	-	P3 Air-line*	-
100+ x PEL	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow

Explanation of Respirator Codes:

Class 1 low to medium absorption capacity filters.

Class 2 medium absorption capacity filters.

Class 3 high absorption capacity filters.

PAPR Powered Air Purifying Respirator (positive pressure) cartridge.

Type A for use against certain organic gases and vapors.

Type AX for use against low boiling point organic compounds (less than 65°C).

Type B for use against certain inorganic gases and other acid gases and vapors.

Type E for use against sulfur dioxide and other acid gases and vapors.

Type K for use against ammonia and organic ammonia derivatives

Class P1 intended for use against mechanically generated particulates of sizes most commonly encountered in industry, e.g. asbestos, silica.

Class P2 intended for use against both mechanically and thermally generated particulates, e.g. metal fume.

Class P3 intended for use against all particulates containing highly toxic materials, e.g. beryllium.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Use appropriate NIOSH-certified respirator based on informed professional judgement. In conditions where no reasonable estimate of exposure can be made, assume the exposure is in a concentration IDLH and use NIOSH-certified full face pressure demand SCBA with a minimum service life of 30 minutes, or a combination full facepiece pressure demand SAR with auxiliary self-contained air supply. Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

ENGINEERING CONTROLS

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.

- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered.

Such protection might consist of:

(a): particle dust respirators, if necessary, combined with an absorption cartridge;

(b): filter respirators with absorption cartridge or canister of the right type;

(c): fresh-air hoods or masks

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Does not mix with water.

Floats on water.

Molecular Weight: Not Applicable

Melting Range (C): 2038

Solubility in water (g/L): Immiscible

pH (1% solution): Not Applicable

Volatile Component (%vol): Not Applicable

Relative Vapor Density (air=1): Not Applicable

Lower Explosive Limit (%): Not Applicable

Autoignition Temp (C): Not Applicable

State: Divided Solid

Boiling Range (C): Not Applicable

Specific Gravity (water=1): 0.62-0.83

pH (as supplied): Not Applicable

Vapor Pressure (kPa): Not Applicable

Evaporation Rate: Not Applicable

Flash Point (C): Not Applicable

Upper Explosive Limit (%): Not Applicable

Decomposition Temp (°C): Not Available

APPEARANCE

Off-white granules with a characteristic odor; insoluble in water.

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.

- Product is considered stable.

- Hazardous polymerization will not occur.

STORAGE INCOMPATIBILITY

None known.

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Section 11 - TOXICOLOGICAL INFORMATION

Phos-Zorb

Not available. Refer to individual constituents.

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

ACTIVATED ALUMINA:

No significant acute toxicological data identified in literature search.

MATERIAL	CARCINOGEN	SENSITIZER	SKIN	MUTAGEN	REPROTOXIN
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Phos-Zorb activated alumina	Listed				
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CARCINOGEN

ACGIH: activated alumina: A4

Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult Waste Management Authority for disposal.
- Bury residue in an authorized landfill.
- Recycle containers where possible, or dispose of in an authorized landfill.

Section 14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN,IATA,IMDG

Section 15 - REGULATORY INFORMATION

RISK

None under normal operating conditions.

REGULATIONS

activated alumina (CAS: 1344-28-1) is found on the following regulatory lists;
Canada Domestic Substances List (DSL)
Canada Ingredient Disclosure List (SOR/88-64)
US - Minnesota Hazardous Substance List
US ACGIH Carcinogens Listing
US EPCRA Section 313 Chemical List For Reporting Year 2004

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Section 15 - REGULATORY INFORMATION

US Toxic Substances Control Act (TSCA)

Section 16 - OTHER INFORMATION

LIMITED EVIDENCE

Cumulative effects may result following exposure*.

May produce discomfort of the eyes*.

* (limited evidence).

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