



# Sulfur Information Sheet



June 04

A Collaborative Effort of NEHC, AFIOH and USACHPPM

## Introduction:

There has been some concern among soldiers in Southwest Asia that there are high levels of sulfur in the air and that breathing it may cause health effects. Sulfur that occurs naturally in the environment (elemental sulfur) is extracted during the petroleum refining process. Because air quality in some regions of the Gulf is so heavily affected by unregulated industries to include petroleum refineries, this information sheet provides basic information about sulfur, so that you can better understand the relative health risk of a potential exposure and make informed decisions to further protect your health.

## Summary points:

- According to the U.S. Environmental Protection Agency (USEPA), sulfur poses very little if any risk to human health. However, exposure to high levels of particles of dust and sand in the air will occur at times in your deployment location, and can lead to eye and nasal irritation and some respiratory health concerns (such as phlegm or a tight chest).
- As in many areas of the world, sulfur could be in the air as part of windblown dust, but itself is unlikely to cause illness.

## What is sulfur or sulfur dust?

The element sulfur is a natural component of the environment found in soil nearly everywhere in the world. In its pure form, it is a yellow powder that does not dissolve easily in water (insoluble). It is commonly used as a fertilizer in order to restore the balance of minerals in the soil to help crops grow. Currently, sulfur is registered by the USEPA for use as an insecticide, fungicide and rodenticide. As such, sulfur is and has been used on several hundred food and feed crop, ornamental, turf and residential sites. Sulfur is applied in dust, granular or liquid form, and is an active ingredient in nearly 300 registered pesticide products.

## How does sulfur enter the body?

Sulfur dust can be inhaled, can be absorbed through contact with the skin, eyes or mucous membranes, and can be unintentionally swallowed (ingested). Additionally,

people may be exposed to small amounts of sulfur through the food supply. However, USEPA does not believe that ingested sulfur is harmful in any amount, and therefore has not established limits for residues of sulfur in or on food.

## What can I do to reduce my exposure to sulfur?

When possible, stay inside buildings/tents during particularly windy times. Because sulfur mainly effects the eyes and upper respiratory system, wearing standard personal protective items, including goggles and cravats (large kerchief-type cloths), can also provide limited relief against windblown sulfur dust. Also, washing clothes regularly and practicing good personal hygiene will further limit exposure.

## Can coming into contact with sulfur make me sick?

According to the USEPA, ingested sulfur poses very little if any risk to human health. Contact with natural sulfur at low levels over many years is generally recognized as safe.

Health studies of mine workers exposed to sulfur dust and sulfur dioxide throughout their lives show that they often had eye and respiratory disturbances, to include bronchitis and chronic sinus effects. However, these effects are related to continued exposure to relatively high levels of sulfur dust. Health effects, if any, in Soldiers deployed to Southwest Asia would most likely be limited to eye irritation and cough due to the lower levels of exposure.

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## Where can I get more information?

USEPA fact sheet: <http://www.epa.gov/oppsrrd1/REDs/factsheets/0031fact.pdf>

# ***MSDS*** *Material Safety Data Sheet*

## Heart of Nature - Soil Amendment

### **1. Product Identification**

**Soil acidification amendment**

Synonyms: Volcanic sulfur, Natural sulfureted ash,

### **2. Composition/Information on Ingredients**

This material is a natural mixture of sulfur containing materials from volcanic areas and such contains a number of mineral forms of sulfur containing materials. The following are the predominate minerals.

Sulfur [free and bound forms] (7704-34-9)

Aluminum Potassium Sulfate [potassium alum] (10043-67-1)

Calcium Sulfate [gypsum] (7778-18-9)

Ferrous Sulfate (7720-78-7)

### **3. Hazards Identification**

#### **Emergency Overview**

**WARNING!** DUST MAY FORM FLAMMABLE OR EXPLOSIVE MIXTURE WITH AIR. MAY BE HARMFUL IF SWALLOWED OR INHALED. CAUSES EYE IRRITATION. MAY CAUSE IRRITATION TO SKIN AND RESPIRATORY TRACT.

Health Rating: 1 Slight

Flammability Rating: 1 Slight (dust form)

Reactivity Rating: 0 None

Contact Rating: 1 Slight

Protective Equip: GOGGLES, CLOTHING, PROPER GLOVES,  
CLASS B EXTINGUISHER

#### **Potential Health Effects**

##### **Inhalation:**

Nuisance dust. May cause coughing, sneezing or labored breathing if large amounts are inhaled.

##### **Ingestion:**

Considered essentially non-toxic by ingestion. Ingestion of large amounts may cause sore throat, nausea, headache, and possibly unconsciousness in severe cases.

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