

## Product safety summary

### 25hydroxycholecalciferol

#### CAS number

63283-36-3

#### Introduction

DSM Nutrition Products, a Business Group of Royal DSM N.V., is a global leader in producing vitamins and various forms.

#### What is 25-Hydroxycholecalciferol?

In nature 25-Hydroxycholecalciferol is the blood circulatory form of vitamin D3, the first metabolite of vitamin D3 formed in the liver.

To enrich feed with 25-Hydroxycholecalciferol employs formulations. Formulations are mixtures with auxiliary materials like a.o. starch (to give dry powders) or water and emulsifiers (to give aqueous emulsions). These formulations are made to enhance the stability and ease of handling.

#### Use, storage and transport of 25-Hydroxycholecalciferol

25-Hydroxycholecalciferol is exclusively used as formulations. These formulations could be dry powders or aqueous emulsions. For fortifying animal feed, 25-Hydroxycholecalciferol formulations are incorporated into animal feed.

#### Storage:

The forms of 25-Hydroxycholecalciferol produced by DSM Nutritional Products are sensitive to air, heat, light and humidity. These products may be stored for 12 months from the date of manufacture in an unopened original container and at temperature below 15°C. The best use before date is printed on the label. Once opened keep container tightly closed. Once open use contents quickly.

#### Transportation:

25-Hydroxycholecalciferol is not a dangerous good or regulated as a hazardous material by any of the global transportation regulations.

#### Physical/chemical properties

Pure 25-Hydroxycholecalciferol is a fine free flowing powder beige to brown in color.

25-Hydroxycholecalciferol formulations are powders or aqueous emulsions;

25-Hydroxycholecalciferol formulations disperse in water (dry powders, aqueous emulsions) or can be mixed with water (aqueous emulsions).

#### Health information

Our bodies use vitamins every day during the normal biochemical processes that maintain life. Vitamins help release energy from our food, and support growth, healing, and repair. An ongoing shortage of vitamins in our diet will lead to failed health, weakness, susceptibility to disease. 25-Hydroxycholecalciferol has a role in a variety of functions throughout the human body such as:

- Bone metabolism - bone development and strength
- Treatment of rickets (children) and osteomalacia (adults) Mineral homeostasis for absorption of calcium and phosphorus
- Melanin synthesis

For pure 25-Hydroxycholecalciferol the main safety concern effect is reproductive toxicity. Over exposure to 25-Hydroxycholecalciferol via inhalation may affect developing fetus. Females planning to have a child and pregnant women should exercise controls regarding exposure. Acute effects include skin irritation, gastrointestinal effects, and liver function. (see Risk management section)

### **Environmental information**

25-Hydroxycholecalciferol is not readily degradable and it is barely toxic to algae and fish. See MSDS for additional information.

### **Exposure potential**

#### **- Workplace exposure**

Workplace exposure to pure 25-Hydroxycholecalciferol is limited. 25-Hydroxycholecalciferol is used in closed systems blended with other raw materials. When exposure is possible e.g. when dumping pure material in a blender, workers use personal protective equipment (PPE) such as respiratory protection.

#### **- Consumer exposure**

Consumers are not exposed to 25-Hydroxycholecalciferol in significant levels. Pure 25-Hydroxycholecalciferol is not a commercially available product. Formulations are typically 5-20% 25-Hydroxycholecalciferol form is sold to food processors or Vitamin supplement companies who in turn use these forms to fortify food or make dietary supplements.

#### **- Environmental Releases**

Every effort is made to prevent a release of 25-Hydroxycholecalciferol to the waterways. Clean up of 25-Hydroxycholecalciferol powder is through normal disposal routes in compliance with local, state and federal regulations.

### **Risk management**

Worker exposure risks are either designed out such as using a closed system or if exposure is present the workers wear correct PPE, e.g. dust masks, chemical goggles, gloves. Pure 25-Hydroxycholecalciferol is a crystalline powder and as such presents a combustible dust explosion hazard. This is controlled by detailed evaluation of explosion potential and design of equipment to ensure a safe system of work.

Consumer products contain only trace levels of 25-Hydroxycholecalciferol. However consumers are not generally exposed to significant amounts of pure 25-Hydroxycholecalciferol. Exposure to the general public is only through a transportation incident involving pure 25-Hydroxycholecalciferol. This is controlled via emergency response procedures for transportation incidents.

25-Hydroxycholecalciferol should only be handled by knowledgeable, well-trained personnel who thoroughly understand the hazards associated with the transportation, storage and use of the chemical.

### **Contact information**

For further information on 25-Hydroxycholecalciferol or product safety summaries in general, please contact: [info.gps@dsm.com](mailto:info.gps@dsm.com)

**Revision) date**

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This product safety summary is intended to give general information about the chemical or categories of chemical addressed. It is not intended to provide an in-depth analysis of health and safety information. Additional information is available through the chemical's applicable Material Safety Data Sheet, which should be consulted before use of the chemical. This product safety summary does not supply or replace required regulatory and/or legal communication documents. All information contained herein is presented on an 'as is' basis and state of technology as per the issue date. The internet disclaimer is applicable ([http://en.dsm.mobi/pda\\_terms\\_eng.html](http://en.dsm.mobi/pda_terms_eng.html)).