



MATERIAL SAFETY DATA SHEET (MSDS)

SOUTH ANTARCTIC KRILL MEAL (*Euphausia superba*, Dana)



**Prepared by Tharos Ltd
Version April 2009**



SECTION 1- PRODUCT NAME AND COMPANY IDENTIFICATION

Product Name. South Antarctic Krill Meal (*Euphausia superba*)

Synonyms Dried Krill Meal

Chemical family Feed

Use Feed ingredient

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SECTION 2- COMPOSITION – INFORMATION ON INGREDIENTS

CAS No None

OSHA PEL NE (not established)

ACGIH TLV NE (not established)

OTHER 6-ethoxy-1,2 dihydro-2,2,4 trimethyl quinoline (CAS Reg.Nbr 91-53-2) is eventually added to retard oxidation (also known as Ethoxyquin). Alternative retardant of oxidation are natural antioxidants such as, but not limited to

1. Naturox liquid composed of mono and diglycerides, natural mixed tocopherols, citric acid and rosemary extract
2. Termox BCP liquid composed of BHA, propyl gallate and citric acid
3. Termox liquid FG which is a mixture of BHT and BHA

Hazard Symbols IMO9 or IMO4.2 Transportation symbols

RISK PHRASES Not Listed



SECTION 3-HAZARDS IDENTIFICATION

Appearance:	Reddish and/or pinkish solid powder.
Potential Health Effect:	On crustacean-like allergic people might produce irritation, slight eyes congestion and slight difficulty to breath.
Primary Routes of Entry:	Inhalation/ Ingestion.
Skin:	No effects expected.
Ingestion:	This material is a slightly sweet, powder-form solid material.
Inhalation:	Exposure to high airborne concentration may cause mild respiratory irritation.
Chronic:	No information found.

This product is liable to heat spontaneously and eventually present auto-combustion risks unless krill meal presents a low fat content and/or it has been effectively anti-oxidant treated and/or it is stored at low temperatures, such as on a cold storage, at room temperatures below 0°C or lower. As a principle, further, storage conditions at a low to very low temperature can be applied if addition of antioxidant is not desired”.

Certain conditions, such as contact with strong oxidizing materials, can lead to oxidation and spontaneous combustion depending upon the moisture and oil content of the product.



SECTION 4-FIRST AID MEASURES

No special treatment under ordinary circumstances. Use good personal hygiene and wash thoroughly with soap and water after handling.

If redness or irritation develops, contact a physician.

Eyes:	No special treatment under normal circumstances. Flush eyes with plenty of fresh water.
Skin:	No special treatment under normal circumstances. Flush skin with plenty of fresh water.
Ingestion:	No special treatment under normal circumstances.
Inhalation:	No special treatment under normal circumstances. Remove from exposure and move to fresh air immediately.
Notes to Physician:	Dried krill meal, made from whole raw krill, is not intended for human consumption based on extensive toxicological studies related to fluoride content in food intended for human consumption.

SECTION 5-FIRE FIGHTING MEASURES

Flammability	Nil at ambient temperature
Extinguishing media	CO ₂ , dry foam
Flash point	NA
Explosive properties	NA
Auto ignition	The product is liable to auto ignition depending on fat and moisture content.
Hazardous combustion product	None.

Appropriate measures should be employed to minimize the potential for dust concentrations.



SECTION 6-ACCIDENTAL RELEASE MEASURES

Spillage Sweep or vacuum up, then dispose.
Environmental precautions Avoid disposal into drains.

Avoid creating conditions that will contribute to high concentrations of krill meal dust. Carefully sweep or vacuum up into waste container.

SECTION 7-HANDLING AND STORAGE

Handling:

Avoid creating dusty conditions. While no special respiratory protection is required, a dust mask, gloves and other good industrial hygiene practices to minimize worker exposure will result in a more comfortable work environment.

Storage:

Store in a cool dry area in manufacturer's supplied packaging.

Temperature should be monitored and if it rises above 35°C (or greater than 5°C above ambient temperature, whichever is greater), provisions must be made for moving or cooling the product. Keep the product dry, away from direct sunlight and well ventilated.

Alternatively, use reefer storage condition in which case cold storage should at all times prevent moisture damage

SECTION 8-EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

It is recommended that all dust control equipment and material transport systems involved are engineered in such a way so to prevent conditions contributing to dust explosions.

Local exhaust
Dust mask, if allergic
Gloves, if allergic
Goggles



SECTION 9-PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Appearance	Powder
Color	Pinkish, Reddish, Red-Pink, Brownish-reddish
Odor	Light shrimp, light sweet

SECTION 10-STABILITY AND REACTIVITY

Chemical Stability:

Stable under normal conditions of temperature and pressure.

Conditions to Avoid: Avoid prolonged storage at elevated temperatures, direct light exposure and high moisture environments

Incompatible Materials: None

Stability	Product is stable
Materials to avoid	Oxidants

SECTION 11-TOXICOLOGICAL INFORMATION

Acute Studies: Material is a non-toxic feed additive
No mortality at the highest tested doses.

Eye	If product enters eye it may cause slight irritation
Skin	Not expected to be a skin irritant
Inhaled	Inhalation of dust during process may cause irritation to sensitive people



SECTION 12-ECOLOGICAL INFORMATION

Dried aqua-grade krill meal is biodegradable and poses no risk to the environment. Dried krill meal and its breakdown products are non-toxic to plant and animal life, and do not accumulate in plant or animal tissue.

Ecotoxicity	No information available
Persistence	No information available
Mobility	No information available
Environmental fate	No information available
Bioaccumulative	No information available

SECTION 13-DISPOSAL CONSIDERATIONS

The product should be disposed off in suitable waste containers and treated as a solid waste.

Dispose in accordance with federal, state and local regulations.

SECTION 14-TRANSPORT INFORMATION

Following precautions are to be taken during transportation, storage and handling:

- Keep original packaging container dry
- Keep transportation containers dry
- Keep container in a well ventilated place
- Keep away from strong oxidizing agents and strong acids
- Keep away from heat
- This material and its packaging material must be disposed of in a safe way
- Keep temperature not exceeding 35° or 5°C above the ambient temperature; whichever is higher, at time of the shipment
- When using reefer containers and/or cold storage prevent excess moisture conditions
 - **Proper Shipping Name & Information:**
 - Hazard Class: IMO subject to antioxidant application
 - DOT Shipping Label: IMO
 - Packaging Exemptions: Non-hazardous
 - Packaging Requirements: Non-hazardous
 - Freight Classification: IMO



SECTION 15-REGULATORY INFORMATION

This product is classified as IMO9 when it has been stabilized with antioxidant or IMO4.2 if it hasn't been treated with antioxidant.

Proper IMO labels must be used if transported on either dry or reefer containers.

SECTION 16-OTHER INFORMATION

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