

Material Safety Data Sheet

Butterfly pea flower extract

Section 1: Chemical Product and Company Identification

Product Name: Butterfly pea flower extract

Synonym: Clitoria ternatea

Application: This product is designed for use in low pH food system (<5.0-5.5) such as alcoholic beverages, soft drink, confectionery items (sweets and jellies), jams and syrups, dry blends, dairy products, ice-cream, added to fruits for use in yoghurts..

Approval: The product is approved by the FDA and meets the specifications outlined in the Code of Federal Regulations, Title 21, Part 73.260.

Chemical Formula:

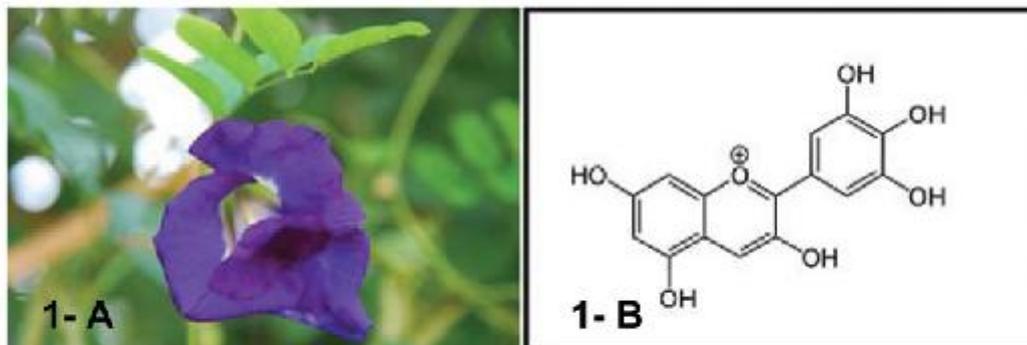


Figure 1. 1-A. Butterfly pea flower. 1-B. Chemical

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Section 2: Hazard(s) Identification

Potential Acute Health Effects: Slightly hazardous in case of eye contact (irritant), or inhalation (irritant). Non-hazardous in case of ingestion, or skin contact.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Repeated or prolonged exposure is not known to aggravate medical conditions.

Section 3: First- Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Coldwater may be used. WARM water MUST be used. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 4: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not available.

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Explosion Hazards in Presence of Various Substances: Not available.

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: As with most organic solids, fire is possible at elevated temperatures.

Special Remarks on Explosion Hazards:

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Section 5: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilt solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of it according to local and regional authority requirements.

Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 6: Handling and Storage

Precautions: Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust.

Storage: Keep the container tightly closed. Keep the container in a cool, well-ventilated area.

Section 7: Exposure Controls/Personal Protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator, gloves or equivalent.

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Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 8: Physical and Chemical Properties

Physical state and appearance: Powder.

Flavour: Bland acidic drying flavour;

Aroma: Slightly sweet.

Taste: Not available.

Color: Purple

pH (1% soln/water): 3.75 ± 0.75

Boiling Point: Not available.

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: Not available.

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Very soluble in cold water. Not soluble in organic solvents such as ethanol.

Section 9: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat

Incompatibility with various substances: Not available.

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Corrosivity: No corrosion.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 10: Toxicological Information

Routes of Entry: Inhalation, Ingestion.

Toxicity to Animals: FDA believe that chronic toxicity from the intended use of butterfly pea flower extract is unlikely.

The genotoxicity studies demonstrate that butterfly pea flower extract is non-mutagenic and non-genotoxic.

Butterfly pea flower extract is not likely to pose a carcinogenic risk to humans at its intended use levels.

Among the available relevant clinical studies, one study of butterfly pea flower extract indicated no acute adverse effect at doses up to 2 grams per person. Other clinical studies, using either anthocyanins or flavonols, suggested tolerance at doses much higher than the exposure level from the consumption of butterfly pea flower extract under the intended condition of use.

Butterfly pea flower extract is no toxicity concern for cyclotides from the consumption of the extract.

FDA agree that it is extremely unlikely that the proteins in butterfly pea flower extract could act as allergens.

References: Food and Drug Administration, HHS: Listing of Color Additives Exempt From Certification; Butterfly Pea Flower Extract.

<https://www.federalregister.gov/documents/2021/09/02/2021-18995/listing-of-color-additives-exempt-from-certification-butterfly-pea-flower-extract>

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Slightly hazardous in case of eye contact (irritant), of inhalation (irritant). Non-hazardous in case of ingestion, or skin contact.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:

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Acute Potential Health Effects:

Skin: May cause skin irritation by mechanical action.

Eyes: May cause eye irritation by mechanical action.

Inhalation: Dust may cause respiratory tract irritation.

Ingestion: Not expected to be toxic by ingestion.

Section 11: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: Not available.

Special Remarks on the Products of Biodegradation: Not available.

Section 12: Disposal Considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 13: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: The cargo is not restricted by air cargo and has no UN number.

Section 14: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: No products were found.

Other Regulations: Not available.

Other Classifications:

WHMIS (Canada): Controlled under WHMIS (Canada).

DSCL (EEC): This product is classified according to EU regulations. Not applicable.

HMIS (U.S.A.):

Health Hazard: 1

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Fire Hazard: 1

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 1

Reactivity: 0

Specific Hazard:

Protective Equipment: Gloves lab coat Dust respirator. Be sure to use an approved/certified respirator or equivalent. Safety glassed.

Section 15: Other information

References: YES

Version: 18-01

Validated on 02/01/2018

Other Special Considerations: Not available.

Identification conclusion:

1.Hazards identification: None.

2.Packaging requirements: None.

Notice to reader: The information mentioned above is expected to be correct, representing the current level. But we don't guarantee that it is safe and reliable. The customer must make investigated to make sure of its availability, we will not be able to compensate for any losses, even if the customer or third party has been advised of the possibility of loss, they may be affected by the third party.

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