Product Code: MCC 102

Raw Material Full Name: Microcrystalline Cellulose Powder

This material is Food Grade

Assay (Dried): 97.0% - 102.0%

CAS Number: 9004-34-6

EC/EINECS Number: 3912-90-90

Molecular Formula for the raw material: $C_6H_{10}O_{5n}$

Solubility in Water: Insoluble

Solubility in Alcohol: Insoluble

Sieve Analysis (% Retention): 60 Mesh <8.0% 200 Mesh >45.0%

Particle Size Distribution: D_{10} <45µ D_{50} 70 - 100µ D_{90} >140µ

Bulk Density: 0.20g/ml – 0.60g/ml

pH: 5.0 – 7.5

Conductivity: Max 75µS

Residue on Ignition: Max 0.1%

Loss on Drying: Max 7%

Water Soluble Substances: Max 0.25%

Ether Soluble Substances: Max 0.05%

Country of Origin: South Africa, Canada, Indonesia, Sweden.

Country of Origin of the Manufacture: India

Base Source/Start Material: Alpha Cellulose Wood Pulp

Origin of Product – Synthetic, Plant, Mineral, Animal, Fish or Fermented: Plant

Material is: 100%

Compound Ingredients: None

Shelf Life from Date of Manufacture: 5 Years

Storage Conditions: This material is to be stored in a tightly sealed bag/container and to be kept in a cool place away from moisture and direct sunlight

Appearance: Free Flowing Powder

Colour: White to off White

Flavour/Taste: Characteristic

Texture: Powder

Odour: Characteristic

Microbiological Test

Total Viable Count: Max 1,000cfu/g

Yeast & Moulds: Max 100cfu/g

E.Coli: Absent

Salmonella: Absent

Staphylococcus aureus: Absent

Metals

Heavy Metals: Max 10ppm

Lead (Pb): Max 3ppm

Cadmium (Cd): Max 1ppm

Mercury (Hg): Max 0.1ppm

Arsenic (As): Max 1ppm

Pharmacopeia Standard Used: EP & USP

There are no nuts in this recipe and are no nuts on site, however we cannot guarantee that the raw materials entering the site are nut free.

TABLET PRESSES

CONFIRMATION OF BSE/TSE STATUS

This is to certify that this product complies with all relevant current UK and EU Legislative requirements in regard to Transmissible Spongiform Encephalopathies (TSE) and Bovine Spongiform Encephalopathy (BSE) for human food, and so is free of TSE/BSE.

This is also to certify that, during the course of their manufacture, the above-mentioned product did not come into contact with any materials, which could be derived from TSE/BSE risk materials.

CONFIRMATION OF GM STATUS

This is to certify that this product is not manufactured from GM raw materials and is therefore not subject to labelling under regulations 1829/2003/EC and 1830/2003/EC.

CONFIRMATION OF NON IRRADIATION STATUS

This is to certify that this product, whole or in part, has not been subjected to Ionising Radiation as per European Directives 1999/2/EC and 1000/3/EC.

CONFIRMATION OF NANDROLONE STATUS

This is to certify that this product, whole or in part, has not come into contact with Nandrolone or any of its precursors in any way.

CONFIRMATION OF IOC PRODUCT STATUS

This is to certify that this product, whole or in part, has not come into contact with any product/s, which is banned by the IOC (International Olympics Committee).

CONFIRMATION OF ANIMAL TESTING STATUS

This is to certify that all the products sold by LFA Machines Oxford Ltd have not been tested on animals in any part of its manufacture in accordance with regulation 86/609/EEC.

CONFIRMATION OF PESTICIDES STATUS

This is to certify that the above-mentioned product complies with the regulation (EC) No.396/2005 of 23rd February 2005 and commission Regulation (EU) No. 559/2011 of 7th June 2011 amending annexes II and III of the above Regulation.

TABLET PRESSES

MATERIAL SAFETY DATA SHEET

Section 1 Description

Product Name: MICROCRYSTALLINE CELLULOSE (MCC)

Product Code: MCC 102

Supplier:

LFA Machines Oxford Ltd,

Unit 4b, 26-27 Murdock Road,

Bicester,

Oxfordshire,

OX26 4PP

United Kingdom

Tel: +44 (0) 1869 250 234

Section 2 Ingredients/Identity Information

Components: Microcrystalline Cellulose

% in Product: 100

CAS Number:9004-34-6

Formula: C6H10O5n

EINECS Number: 3912-90-90

Section 3 Hazards identification

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

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 condition

Section 4 Emergency and First Aid Procedures

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. Seek medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Seek medical attention if irritation develops.

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

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as collar, tie, belt or waistband. Seek medical attention if symptoms appear.

Section 5 Fire and Hazard Data

Flammability of Product: May be combustible at high temperatures

Auto-Ignition Temperature: Not available

Flash Points: Not available

Flammable Limits: Not available

Products of combustion: Not available

Fire Hazardous in Presence of Various Substances

Slight flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks

Explosion Hazards in Presence of Various Substances

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 & 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

Damp cellulose can be a significant fire hazard since it may undergo spontaneous combustion. Fire and explosions may occur from reactions involving pentafluoride, acetic acid and cellulose. Contact between cellulose and sodium nitrite at elevated temperatures results in vigorous burning from decomposition reaction

Special Remarks on Explosion Hazards

Fire and explosions may occur from reactions involving pentafluoride, acetic acid and cellulose. Contact between cotton and fluorine may result in violent explosion. Excess dust generation may create explosion hazard.

Section 6 Accidental release measures

Small Spill

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

Large Spill

Use shovel to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface allow to evacuate through the sanitary system.

Section 7 Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood.

Ground all equipment containing material. Do not ingest. Do not breath dust. If ingested seek medical advice immediately and show the label or container.

Storage:

Keep container tightly closed. Keep container in a cool dry place that's well ventilated. Do not store about 25^{o}C (77^{o}F)

Section 8 Control Methods/Personal Protection

Engineering Measures:

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 contaminates below the exposure limit.

Personal Protection:

Safety glasses, lab coat, gloves (impervious)

Personal Protection in Case Large Spill:

Splash goggles, full suit, boots, gloves. Suggested protective clothing might not be sufficient consult a specialist BEFORE handling this product.

Exposure Limits:

TWA 10 (mg/m3) from ACGIH (TLV) (United States) Inhalation Total

TWA: 10 (mg/m3) from British Columbia Occupational Exposure Limit (Canada) Inhalation Total

TWA: 3 from British Columbia Occupational Exposure Limit (Canada) Inhalation Respirable

TWA: 5 (mg/m3) from OSHA (PEL) (United States) Inhalation Respirable

TWA: 15 (mg/m3) from OSHA (PEL) (United States) Inhalation Total

TWA: 10 STEL 20 (mg/m3) (United Kingdom) Inhalation Total

TWA: 4 (mg/m3) (United Kingdom) Inhalation Respirable. 3

Consult local authorities for acceptable exposure limits.

Section 9 Physical and Chemical Properties

Physical state: Powder

Colour: White to off white

Odour: Characteristic

Solubility: Insoluble

Section 10 Stability and Reactivity

Stability: The product is stable

Instability Temperature: Not available

Conditions of Instability: Excess heat, incompatible materials

Corrosivity: Non-corrosive in presence of glass

Polymerization: Will not occur

Section 11 Toxicological Information

Routes of Entry: Inhalation, ingestion.

Toxicity to Animals:

WARNING: The LC50 values hereunder are estimated on the basis of a 4 hour exposure

Acute Oral Toxicity (LD50): >5000 mg/kg (Rat)

Acute Dermal Toxicity (LD50): >2000 mg/kg (Rabbit)

Acute Toxicity of the Dust (LC50): 5800 mg/m3 4 hours (Rat)

Chronic Effects on Humans: Not available

Other Effects on Humans: Slightly hazardous in case of ingestion, of inhalation, non- irritant for skin.

Special Remarks on Other Toxicity Effects on Humans:

Acute Potential Health Effects

Skin: It is not known to cause skin irritation

Ingestion: Ingestion of large amounts may cause digestive tract irritation

Eyes Dust may cause mechanical irritation

To the best of our knowledge there are no known cases of adverse effects or disease in humans from exposure to cellulose. Purified cellulose in known to be essentially inert. Pure cellulose dust is not

known to be irritating or toxic

Chronic inhalation from cellulose-containing fibres can cause byssinosis In chronic feeding studies with purified cellulose in mice and rats, no significant adverse reactions seen.

Section 12 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: The product itself and its products of degradation are not toxic.

Special Remarks on Biodegradation: Not available

Section 13 Disposal Considerations

Waste from residues: Dispose of in accordance with all applicable local and national regulations.

Section 14 Transport Information

Transport classification: Not classified as dangerous for any mode of UK or International transport.

Section 15 Regulatory Information

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

DSCL (EEC): This product is not classified according to the EU regulations.

Reviews, Standards and Regulations: Health & Safety at work act 1974. COSHH Regulations (1994). EH40 Occupational exposure limits.

Section 16 Other Information

This advice is given by LFA Machines Oxford Ltd who accept no legal liability for it. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.

Individuals working with chemicals should consider all chemicals to be potentially hazardous even if their individual hazards may be uncharacterised or unknown.

We confirm that the information above is sourced from the original manufacturers/suppliers Specification

To be used as per local legislation