OPPENHEIMER BIOTECHNOLOGY INC.

SAFETY DATA SHEET (SDS)

1. Identification

Product identifier: The Oppenheimer Formula III® CS
Other means of identification: NONE
Recommended use: Bioremediation of hydrocarbons
Recommended restrictions: None known. Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.
Manufacturer

Company name: Oppenheimer Biotechnology Inc
Address: PO Box 1490, Pflugerville TX 78691-1490 United States
Telephone: 512-474-1016
Website: http://www.obio.com
E-mail: obiotech@obio.com
Emergency phone number: 512-751-2121

2. Hazard(s) identification

This product contains less than 0.25% respirable crystalline silica according to a modified version of the NIOSH 7500 method. It does not meet the criteria for classification as hazardous according to criteria set forth by OSHA Hazard Communication Standard (29 CFR 1910.1200) or EC Regulation 1272/2008.
The microbes are considered Class 1 and have not been connected to any safety issues
Physical hazards: Can be slippery when wet
Health hazards: Not classified
Environmental hazards: Not classified
OSHA defined hazards: Not classified.
Label elements

Hazard symbol: None
Signal word: None
Hazard statement: May form combustible dust concentrations in air.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Prevent dust accumulation to minimize explosion hazard.

Precautionary statement

Prevention: Observe good industrial hygiene practices
Response: Wash hands after handling
Storage: Keep dry and store away from incompatible materials
Disposal: Dispose of waste and residues in accordance with local authority requirements

Hazard(s) not otherwise classified (HN OC): None known
Supplemental information: Not applicable.

3. Composition/information on ingredients

Substances

Chemical ·name	Common name & synonyms	CAS number	%
Corn Starch	None	9005-25-8	~89%

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation: If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist. No specific first aid measures noted.
Skin contact: Can be drying. Get medical attention if irritation develops and persists. No specific first aid measures noted. Wash skin with soap and water.
Eye contact: Can be irritating. No specific first aid measures noted. Flush thoroughly with water. If irritation occurs, get medical assistance.
Ingestion: No specific first aid measures noted. Rinse mouth thoroughly. Get medical attention if any discomfort occurs.
Most important symptoms/effects, acute and delayed: Dust in the eyes will cause irritation.
Indication of immediate medical attention and special treatment needed: Provide supportive measures and treat symptomatically.
General information: No hazards which require special first aid measures. Provide general supportive measures and treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media: Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). Apply extinguishing media carefully to avoid creating airborne dust. Use water spray to prevent dust-air mixtures.
Unsuitable extinguishing media: None known
Specific hazards arising from the chemical: Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard
Special protective equipment and precautions for firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire

Fire fighting equipment/instructions: In the event of fire, cool tanks with water spray.
Specific methods: Cool containers exposed to flames with water until well after the fire is out
General fire hazards: Product becomes a combustible dust when finely divided and suspended in air. Keep away from sources of ignition, sparks, and open flames. Use only in well-ventilated areas. Provide adequate dust control.

6. Accidental release measures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Use only non-sparking tools. Wear appropriate personal protective equipment. Avoid inhalation of dust from the spilled material. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS
Methods and materials for containment and cleaning up: The product is immiscible with water and will spread on the water surface. Minimize dust generation and accumulation. Prevent entry into waterways, sewer, basements or confined areas. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). For waste disposal, see section 13 of the SDS. Following product recovery, flush area with water.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Eliminate all sources of ignition. Minimize dust generation and accumulation. Combustible dust clouds may be created where operations produce fine material (dust). Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). Provide appropriate exhaust ventilation at places where dust is formed. Avoid breathing dust. Avoid contact with skin and eyes.
Avoid prolonged exposure. In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Practice good housekeeping.

8. Exposure controls/personal protection

Occupational exposure limits
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value	Form
STARCH	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. ACGIH Threshold Limit Values

Material	Type	Value
STARCH	TWA	10 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value	Form
STARCH	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total

Biological limit values: No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks
Eye/face protection: Use tight fitting goggles if dust is generated. Wear dust-resistant safety goggles where there is danger of eye contact.
Skin protection: No protection is ordinarily required under normal conditions of use
Hand protection: Wear gloves to prevent drying
Other: Wear appropriate chemical resistant clothing
Respiratory protection: Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.
Thermal hazards: Not applicable

General hygiene considerations: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Use good industrial hygiene practices in handling this material.

9. Physical and chemical properties

Appearance: Fine powder
Physical state: Solid. Color: Light yellow
Odor: Possible very slight oil smell
Odor threshold: Not applicable.
pH: 6-7
Melting point: Not applicable
Initial boiling point/range: Not available
Flash point: Not available
Evaporation rate: Not available
Flammability (solid, gas)This product is not flammable
Upper/lower flammability or explosive limits
Flammability limit - lower (%): Not available
Flammability limit - upper (%): Not available
Explosive limit - lower (%): Not available.
Explosive limit - upper (%): Not available
Vapor pressure: Not available.
Vapor density: Not available.
Relative density: 2.6 g/cm³

Solubility(ies)
Solubility (water): < 0.9 mg/l
Partition coefficient: Not available
(n-octanol/water): Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: > 932 °F (> 500 °C)
Viscosity: Not available.
Viscosity temperature: Not available.
Other information
Bulk density: 0.9 - 1.4 g/cm³
Pmax 8.4 bar (dust explosion properties for B200 corn starch)
dP/dT 745 bar/s
Kst 202 bar.m/s
St class 2 Strong explosion
Minimum explosible concentration (MEC) 140 - 160 g/m³
Minimum ignition energy (MIE) - dust cloud 300 - 500 mJ
Minimum ignition temperature (MIT) - dust cloud 788 - 806 °F (420 - 430 °C)
Moisture ~11%
Specific gravity ~1.50

10 Stability and reactivity
Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability: Stable at normal conditions.
Possibility of hazardous reactions: Will not occur.
Conditions to avoid: Keep away from heat, sparks and open flame. Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimize dust generation and accumulation.
Incompatible materials: Strong oxidizing agents.
Hazardous decomposition products: Carbon oxides

11. Toxicological information

Information on likely routes of exposure
Inhalation: Inhalation of dusts may cause respiratory irritation.
Skin contact: Not classified.
Eye contact: Dust in the eyes will cause irritation.
Ingestion: Not classified.
Symptoms related to the physical, chemical and toxicological characteristics: None known.

Skin corrosion/irritation: Not classified.
Eye damage/eye irritation: Dust in the eyes will cause irritation.
Respiratory or skin sensitization
Respiratory sensitization Not classified.
Skin sensitization: Not classified.

Germ cell mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic

Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity: This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure. Not classified.
Specific target organ toxicity - repeated exposure. Not classified
Aspiration hazard: Not available.
Chronic effects Prolonged inhalation may be harmful

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability No data is available on the degradability of this product.
Bioaccumulative potential No data available.
Mobility in soil No data available.
Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations.
Local disposal regulations: Dispose in accordance with all applicable regulations.
Hazardous waste code: The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Store containers and offer for recycling of material when in accordance with the local regulations.

14. Transport information

DOT: Not regulated as dangerous goods.
IATA: Not regulated as dangerous goods.
IMDG: Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA Hazardous Substance List (40 CFR 302.4) Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - Yes Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting) Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) Not

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US - Pennsylvania RTK - Hazardous Substances: Listed substance Corn Starch (CAS 9005-25-8)

US. Massachusetts RTK - Substance List Corn Starch (CAS 9005-25-8)

US. Rhode Island RTK Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia Canada	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
China	Non-Domestic Substances List (NDSL)	No
Europe	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Japan	European List of Notified Chemical Substances (ELINCS)	No
Korea	Inventory of Existing and New Chemical Substances (ENCS) Existing	No
New Zealand	Chemicals List (ECL)	Yes
Philippines	New Zealand Inventory	Yes
United States & Puerto Rico	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date: April 2025 Version #3
Further information: This safety datasheet only contains information relating to safety and does not replace any product information or product specification.
Further information Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.
HMIS® is a registered trade and service mark of the American Coatings Association
HMIS® ratings Health: 1*
Flammability: 2
Physical hazard: 0
NFPA ratings Health: 1
Flammability: 2 Instability: 0
References ACGIH
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

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