SAFETY DATA SHEET

Section 1: Product and Company Identification

PRODUCT IDENTIFIER

Product Name OPM-293 CD05 Medium, Liquid
Product Code 81075-01

For Research Use or Further Manufacturing. Not for diagnostic or therapeutic use in humans or animals.

SUPPLIER

OPM Biosciences, Inc.
5653 Stoneridge Dr., Ste. 117&118
Pleasanton, CA 94588, USA
(925) 523-2199
opmus_sales@opmbiosciences.com / Tech-support@opmbiosciences.com

IN CASE OF EMERGENCY

In the United States: For 24/7 multilingual advice for a spill, leak, fire, exposure, or accident, please call CHEMTREC at +1 703-527-3887 (Washington DC) or 1-800-424-9300 (toll-free) and provide CCN 1023867.

For locations outside of United States: Please contact VelocityEHS at +1 813-248-0585. Collect calls are accepted. Shipments originating in USA and going to other locations outside of USA should also contact 1-800-255-3924. Please provide contract number MIS6517807 in the call. If the caller does not speak English, after accepting the call, VelocityEHS will conference call to their on-line translation service for live interpretation.

SECTION 2: Hazard Identification

Hazard class and label elements of the product according to GHS (the 6th revised edition):

GHS HAZARD CLASS

Skin corrosion/irritation	Category 3

GHS LABEL ELEMENTS

Hazard pictograms	None
Signal word	Warning

HAZARD STATEMENTS

Causes mild skin irritation

PRECAUTIONARY STATEMENTS

Prevention

None

Response

If skin irritation occurs: get medical help.

Storage

None

Disposal

None

SECTION 3: Composition/Information on Ingredients

SUBSTANCE/MIXTURE

Component	CAS No.	EC No.	Concentration (Volume or weight percent, %)
Amino acid salts	N/A	N/A	<34.72
Sodium chloride	7647-14-5	231-598-3	7.80
Potassium chloride	7447-40-7	231-211-8	2.39
Magnesium chloride	7786-30-3	232-094-6	1.70
Sodium dihydrogen orthophosphate	7558-80-7	231-449-2	1.48
Disodium hydrogen orthophosphate	7558-79-4	231-448-7	1.36

The remaining ingredients are confidential.

SECTION 4: First-Aid Measures

SKIN EXPOSURE

In case of contact, wash skin with soap and copious amounts of water. If irritation persists, call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

INHALATION EXPOSURE

If inhaled, move to fresh air. If breathing is difficult, give oxygen.

ORAL EXPOSURE

If victim is conscious, wash mouth out with water. Get medical aid if feel unwell.

SECTION 5: Fire-Fighting Measures

EXTINGUISHING MEDIA

Suitable extinguishing media	Dry chemical, carbon dioxide, water spray, alcohol-resistant foam.
Specific Hazards Arising from the Chemical Product	May decompose upon combustion or in high temperatures to generate Carbon oxides, Sulphur oxides, Phosphorus oxides, Hydrogen chloride, Sodium oxides, Magnesium oxides.
Advice for firefighters	Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Fire-extinguishing work is done from the windward. Uninvolved people should evacuate to a safe place.

SECTION 6: Accidental Release Measures

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use personal protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Avoid breathing vapors.

ENVIRONMENTAL PRECAUTIONS

Avoid entering drains. Discharge into the environment should be avoided.

METHODS FOR CLEANING UP

Mix with inert material (e.g. dry sand, vermiculite) and transfer to a dry, clean, lidded container for disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

SECTION 7: Handling and Storage

PRECAUTIONS FOR SAFE HANDLING

1. Wear appropriate protective clothing and gloves.
2. Avoid inhalation.
3. Avoid contact with eyes, skin and clothing.
4. Mechanical exhaust required.
5. Keep away from ignition sources, heat, and flame.
6. Incompatibilities strong oxidizing agents. Wash hands and face thoroughly after handling. No smoking at working site.

PRECAUTIONS FOR STORAGE

1. Store in cool place.
2. Keep container tightly closed in a dry and well-ventilated place.
3. Keep away from heat, sparks, and flame.
4. Keep away from sources of ignition.
5. Incompatible: Strong oxidizing agents.

SECTION 8: Exposure Controls/Personal Protection

PERMISSIBLE CONCENTRATION

No data available

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required

PERSONAL PROTECTIVE EQUIPMENT

Respiratory	Government approved respirator if needed.
Eye	Chemical safety goggles.
Clothing	Wear appropriate protective clothing.
Hand	Safety gloves.

OTHER PROTECTION

No smoking, drinking and eating at working site. Wash thoroughly after handling.

SECTION 9: Physical and Chemical Properties

PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Red orange liquid
Odor	Weak odor
Odor Threshold	No information available
pH	7.1-7.2
Melting Point/Freezing Point (°C)	No information available
Flash Point (°C) (Closed Cup)	> 96.0°C
Flammability	Not applicable
Solubility	Miscible in water
Boiling Point, Initial Boiling Point and Boiling Range	101°C
Density/Relative Density	1.009 g/cm^3
Viscosity	No information available
Upper/Lower Flammability or Explosive Limits	No information available
Vapor Pressure	No information available
Vapor Density	No information available
n-Octanol/Water Partition Coefficient	No information available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Evaporation Rate	No information available

SECTION 10: Stability and Reactivity

STABILITY AND REACTIVITY

Stability	Stable under normal temperatures and pressures.
Hazardous reactions	No data available

Conditions to avoid	No data available
Incompatible materials	No information available.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological Information

ACUTE TOXICITY

Acute toxicity

L-Cysteine	Rat Oral LD_{50} 1890 mg/kg
Sodium chloride	Rat Oral LD_{50} 3550 mg/kg Rat Inhalation LC_{50} 12000 mg/m^3/h
Potassium chloride	Rat Oral LD_{50} 2600 mg/kg
Magnesium chloride	Rat Oral LD_{50} 2800 mg/kg
Sodium dihydrogen orthophosphate	Rat Oral LD_{50} 8290 mg/kg
Disodium dihydrogen orthophosphate	Rat Oral LD_{50} 17000 mg/kg

SKIN CORROSION/IRRITATION

Causes mild skin irritation

SERIOUS EYE DAMAGE/IRRITATION

No information available

SKIN SENSITIZATION

No information available

RESPIRATORY SENSITIZATION

No information available

GERM CELL MUTAGENICITY

No information available

CARCINOGENICITY

No information available

REPRODUCTIVE TOXICITY

No information available

REPRODUCTIVE TOXICITY (ADDITIONAL)

No information available

STOT-SINGLE EXPOSURE

No information available

STOT-REPEATED EXPOSURE

No information available

ASPIRATION HAZARD

No information available

SECTION 12: Ecological Information

ECOTOXICITY

L-Arginine	Toxicity to fish semi-static test LC_{50}-Brachydanio rerio (zebrafish)-2. 8 mg/L -96 h (OECD Test Guideline 203)
L-Serine	Toxicity to daphnia and other aquatic invertebrates static test EC_{50}-Daphnia magna (Water flea) 83 mg/L -18 h (OECD Test Guideline 202)
L-Alanine	Toxicity to daphnia and other aquatic invertebrates static test EC_{50} -Daphnia magna (Water flea) 100 mg/L -48 h (OECD Test Guideline 202)
L-Cysteine	Toxicity to fish semi-static test LC_{50} -Dania rerio (zebra fish) -> 100 mg/L -96 h (OECD Test Guideline 203) Toxicity to daphnia and other aquatic invertebrates semi-static test EC_{50} -Daphnia magna (Water flea) -> 100 mg/L -48 h (OECD Test Guideline 202)

L-Glutamic acid	Toxicity to fish static test LC_{50}-Cyprinus carpio (Carp) -> 100 mg/L -96 h (OECD Test Guideline 203) Toxicity to daphnia and other aquatic invertebrates static test EC_{50} -Daphnia magna (Water flea) -> 100 mg/L -18 h (OECD Test Guideline 202) Toxicity to algae static test EC_{50} - Pseudokirchneriella subcapitata (green algae) -> 31 mg/L -72 h (OECD Test Guideline 201)
L-Proline	Toxicity to daphnia and other aquatic invertebrates EC_{50} -Daphnia magna (Water flea) -> 100 mg/L -18 h
Potassium chloride	Toxicity to fish LC_{50} -Pimephales promelas (fathead minnow) -880 mg/L -96 h mortality NOEC -Pimephales promelas (fathead minnow) -500 mg/L -7d mortality LOEC -Pimephales promelas (fathead minnow) -1000 mg/L -7d Toxicity to daphnia and other aquatic invertebrates EC_{50} -Daphnia magna (Water flea) -> 110 mg/L -18 h (OECD Test Guideline 202)
Magnesium chloride	Toxicity to fish static test LC_{50} -Pimephales promelas (fathead minnow) -2119.3 mg/L -96h Toxicity to daphnia and other aquatic invertebrates static test LC_{50} -Daphnia magna (Water flea) -518.1 mg/L -18 h Toxicity to algae Growth inhibition EC_{50} - Desmodesmus subspicatus (Scenedesmus subspicatus) -> 100 mg/L -72 h (OECD Test Guideline 201) Toxicity to bacteria Respiration inhibition EC_{50} - Sludge Treatment -> 900 mg/L -3 h (OECD Test Guideline 209)

PERSISTENCE AND DEGRADABILITY

L-Arginine	Biodegradability aerobic - Exposure time 28 d Result: 60%-readily biodegradable (OECD Test Guideline 301C)
L-Serine	Biodegradability aerobic - Exposure time 28 d Result: 81%-readily biodegradable (OECD Test Guideline 301)
L-Cysteine	Biodegradability aerobic - Exposure time 28 d Result: 98%-readily biodegradable (OECD Test Guideline 301A)
L-Glutamic acid	Biodegradability aerobic - Exposure time 28 d Result: 97%-readily biodegradable
L-Proline	Biodegradability aerobic - Exposure time 28 d Result: -readily biodegradable (OECD Test Guideline 301)

OTHERS

Bioaccumulative potential	No data available
Mobility in soil	No data available
Other adverse effects	No data available

SECTION 13: Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

SECTION 14: Transport Information

RID/ADR

Non-hazardous for transport	This substance is considered to be non-hazardous for transport.

IATA

Non-hazardous for air transport	Non-hazardous for air transport

IMO

Non-hazardous for sea transport Non-hazardous for sea transport

SECTION 15: Regulatory Information

REGULATION (EC) NO. 1272/2008 AND THE AMENDMENTS

Skin Corrosion/Irritation (Category 3)

US STATE REGULATIONS

Chemical Name	Massachusetts - RTK (Right-to-Know)	New Jersey - RTK (Right-to-Know)	Pennsylvania - RTK (Right-to-Know)
Nickel (II) sulfate hexahydrate (1:1:6)	Listed	Listed	Listed
Cadmium Chloride $2.5H_2O$	Listed	Listed	Listed

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS No.	Weight-%	Category
Nickel (II) sulfate hexahydrate (1:1:6)	10101-97-0	<0.001%	Carcinogen Developmental
Cadmium Chloride $2.5H_2O$	35658-65-2	<0.001%	Male Reproductive Carcinogen Listed

WHMIS Hazard Class

This product has been classified in accordance with the Hazardous Products Regulations (HPR). It is not considered a hazardous product under WHMIS 2015.

SECTION 16: Other information

INFORMATION ON REVISION

Creation date	2018/08/02
Revision date	N/A
Version Number	NASDS113A

REFERENCE STANDARD

GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), 6th revised edition.

DISCLAIMER

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End of Safety Data Sheet