

Safety Data Sheet

MANUFACTURER



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Product Identification

Trade Name: PerKit™ Antibody

Part No.: CM11407, CM11407x3

Methotrexate Conjugation Kit

CAS No.: N/A

Molecular Weight: N/A

Chemical Formula: N/A

Composition/Information on Ingredients

Each kit includes:

- 1) One or three 1.5 mL microcentrifuge tubes containing less than 0.2 mg of methotrexate *N*-hydroxysuccinimide ester
- 2) A tube containing 0.5 mL of solution A
- 3) A bottle containing 4 mL or 12 mL of buffer A (non-hazardous)
- 4) A tube containing 0.5 mL or 1.5 mL of stabilization PBS buffer (non-hazardous)
- 5) A plastic bottle containing 20 mL or 60 mL of storage Buffer (phosphate buffer saline) (non-hazardous)
- 6) A plastic bag containing centrifugal filter devices, desalting columns, and microcentrifuge tubes (non-hazardous)

Handling and Storage for Hazardous Chemicals

Handling for methotrexate *N*-hydroxysuccinimide ester and Solution A: See Attached Supplement

Transportation

None of the components in the kit is regulated for transportation.

Methotrexate N-hydroxysuccinimide Ester

1. Product and Company Identification

Product Name: Methotrexate N-hydroxysuccinimide ester

Product No.: CM11009.1

Company: CellMosaic, Inc. 10A Roessler Road, Woburn, MA 01801

2. Hazards Identification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 3), H301

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

Reproductive toxicity (Category 1B), H360

Label elements



Pictogram

Signal Word: Danger

Hazard Statements

H301 – Toxic if swallowed

H315 – Causes skin irritation

H319 Causes serious eye irritation.

H360 May damage fertility or the unborn child.

Precautionary statement(s)

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON

CENTER/doctor. Rinse mouth.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313

IF exposed or concerned: Get medical advice/ attention.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

3. Composition and Information on Ingredients

Ingredient	CAS No.	Percent	Hazardous
Methotrexate N-hydroxysuccinimide ester	N/A	100%	Yes

4. First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Skin Contact: Wash skin with soap or mild detergent and water. Get medical attention.

Notes to Physician: Treat symptomatically and supportively.

5. Fire Fighting Measures

Flash Point: No data available

Autoignition Temperature: No data available

Flammable Limits (% in air): No data available

Special hazards arising from the substance or mixture: carbon oxides, nitrogen oxides (NO_x).

Fire Fighting Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Advice for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Further information: No data available

6. Accidental Spill Measures

Avoid raising and breathing dust, and provide adequate ventilation. Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Use spark-proof tools. Keep away from sources of ignition. Approach the spill from upwind and pick up absorbed material and transfer to a chemical waste container for disposal in accordance with local regulations. Always use proper personal protective equipment as described in **section 8**.

7. Handling and Storage

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Use with adequate ventilation. Avoid breathing vapor or mist.

Storage: Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: -20 °C. Keep in a dry place. Keep in a dry place.

8. Exposure Controls/Personal Protection

Control parameters: Contains no substances with occupational exposure limit values.

Engineering Controls: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal Protective Equipment:

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. Physical and Chemical Properties

Physical State and Appearance: yellow color solid

Odor: No information available

Solubility: soluble.

Specific Gravity: No data available

pH: No data available

Boiling Point: No data available

Freezing/Melting Point: No data available

Flash Point: No data available

Autoignition Temperature: No data available

Flammable Limits (% in air): No data available

Vapor Density (Air=1): No data available

Vapor Pressure: No data available

Evaporation Rate (Butyl acetate =1): No information available

Partition coefficient; n-octanol/water: No information available

Decomposition Temperature: No information available

Viscosity: No data available

Molecular Formula: C₂₈H₂₈N₁₀O₉

Molecular Weight: 648.59

10. Stability and Reactivity

Chemical stability: Stable under recommended storage conditions.

Possible of hazardous reactions: No data available

Hazardous Decomposition Products formed under fire conditions: nitrogen oxides, carbon oxides

Other decomposition products: No data available

Reactivity: No data available

Incompatible materials: Strong oxidizing agents, strong acids

Conditions to Avoid: Avoid moisture and light.

11. Toxicological Information

Information on Toxicological Effects: the toxicological effects of this product has not been thoroughly studied.

12. Ecological Information

Toxicity: No information available.

Persistence and degradability: No information available.

Bioaccumulative potential: No information available

Mobility in Soil: No information available

Results of PBT and vPvB: No information available

Other adverse effects: No information available

13. Disposal Considerations

Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

DOT (US)

UN number: 1544 Class: 6.1 Packing group: III

Proper shipping name: Alkaloids, solid, n.o.s. (Methotrexate *N*-hydroxysuccimide ester)

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG

UN number: 1544 Class: 6.1 Packing group: III EMS-No: F-A, S-A

Proper shipping name: ALKALOIDS, SOLID, N.O.S. (Methotrexate *N*-hydroxysuccimide ester)

IATA

UN number: 1544 Class: 6.1 Packing group: III

Proper shipping name: Alkaloids, solid, n.o.s. (Methotrexate *N*-hydroxysuccimide ester)

15. Regulatory Information

SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components: This material does not contain any chemical components with known CAS numbers that exceed the threshold (DeMinimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards: Acute Health Hazard

Massachusetts Right To Know Components: No components are subject to the Massachusetts Right to Know Act.

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm

Pennsylvania Right To Know Components: Methotrexate *N*-hydroxysuccimide ester (CAS No. is not available)

New Jersey Right To Know Components: Methotrexate *N*-hydroxysuccimide ester (CAS No. is not available)

16. Other Information

References:

This document has been prepared in accordance with the MSDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and WHMIS Controlled Products Regulation Chemical Abstract databases, SARA. Other similar compound's SDS.

Other Special Considerations: Not available

Solution A

1. Product and Company Identification

Product Name: Solution A

Product No.: CM01006

Company: CellMosaic, Inc. 10A Roessler Road, Woburn, MA 01801

2. Hazards Identification

Classification of the substance or mixture



Flammable liquids

Eye Irritation

Reproductive Toxicity

GHS Category 4

GHS Category 2

GHS Category 2A

Label elements

Signal Word: WARNING!

Hazard Statements

H227 - Combustible liquid and vapor

H316 – Causes mild skin irritation

H320 - Causes eye irritation

H335- May cause respiratory irritation

H360 – May damage fertility or the unborn child

Precautionary Statements

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 – If on skin or hair: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

May cause irritation to the eyes, skin, and respiratory tract. May cause harm to the unborn child. Maybe harmful if swallowed, inhaled, or absorbed through the skin. Light sensitive. Combustible liquid and vapor. Hygroscopic.

3. Composition and Information on Ingredients

Ingredient	CAS No.	Percent	Hazardous
The specific chemical identities of the organic solvent is being held as a trade secret (Proprietary component)	N/A	99-100%	Yes

4. First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Ingestion: If swallowed, DO NOT INDUCE VOMITING without medical advice. Rinse mouth with water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention.

Eye Contact: Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention.

Notes to Physician: Treat symptomatically and supportively.

5. Fire Fighting Measures

Flammability: Combustible liquid and vapor. (GHS Category 4)

Flash Point: 90-100°C (194-212 °F)

Autoignition Temperature: >200 °C (392 °F)

Flammable Limits: Lower Limit 1.3 vol%, Upper Limit -9.5 vol%.

Products of Combustion: May decompose into irritating and highly toxic gases under fire conditions (nitrogen oxides, carbon monoxide, carbon dioxide).

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

Specific Explosion Hazards: No information available

Fire Fighting Media: Use dry chemical, carbon dioxide, water spray, or appropriate foam.

NFPA

Health Rating: 2

Flammability Rating: 2

Instability: 0

Physical hazards N/A

6. Accidental Spill Measures

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Use spark-proof tools. Provide ventilation to the affected area and remove all ignition sources. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Always use proper personal protective equipment as described in **section 8**.

7. Handling and Storage

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Use with adequate ventilation. Avoid breathing vapor or mist.

Storage: Store away from ignition sources. Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store under nitrogen blanket..

8. Exposure Controls/Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protective Equipment: Wear protective chemical goggles or other appropriate eye protection. Use butyl rubber gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Exposure Limits: None established.

9. Physical and Chemical Properties

Physical State and Appearance: Clear, Colorless liquid

Odor: No information available

Solubility: soluble.

Specific Gravity: No information available

pH: slightly basic 8-10 (100 g/L H₂O)

Boiling Point: No information available

Freezing/Melting Point: No information available

Flash Point: No information available

Vapor Density (Air=1): N/A

Vapor Pressure: N/A

Evaporation Rate (Butyl acetate =1): No information available

Partition coefficient; n-octanol/water: No information available

Autoignition Temperature: No information available

Decomposition Temperature: No information available

Viscosity: N/A

Molecular Formula: N/A

Molecular Weight: N/A

10. Stability and Reactivity

Stability: Stable at room temperature in closed container under normal handling and storage conditions.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

Incompatibilities with Various Substances: Strong oxidizing agents, strong acids.

Conditions to Avoid: Light, ignition sources, excess heat, exposure to moist air or water.

11. Toxicological Information

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: Causes respiratory tract irritation. May cause headache. Material has a very low vapor pressure at room temperature, so inhalation exposures are not expected unless material is heated or misted.

INGESTION HAZARD: Ingestion may cause gastrointestinal irritation with nausea, vomiting, and diarrhea.

SKIN CONTACT HAZARD: May cause skin irritation. May be harmful if absorbed through the skin. Not expected to cause an allergic reaction. Because of the high permeability rate in human skin, prolonged contact should be avoided.

EYE CONTACT HAZARD: May cause eye irritation. May cause temporary corneal clouding.

Chronic Exposure Hazards: Prolonged or repeated exposure may cause dermatitis. Adverse reproductive effects have been reported in animals. Testicular effects were noted in rates after repeated, high-dose oral and inhalation exposures (BASF). Human occupational exposure has been associated with chronic eye irritation, headaches, and irritant contact dermatitis. Airborne concentrations of > 49 ppm are intolerable (REPROTEXT).

Animal Toxicity:

Draize test, rabbit, eye: <150 mg Moderate

Oral, mouse: LD50 <5200 mg/kg;

Oral, rat: LD50 <4000 mg/kg;

Skin, rabbit: LD50 < 10 g/kg;

Sensitization test, guinea pig: negative; patch test (humans): negative (Merck)

Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65

Epidemiology: No information available

Teratogenicity: Proposition 65 maximum allowable dose level for developmental toxicity for this solvent is 3200 ug/day for the inhalation route and 17.00 ug/day for the dermal route.

Reproductive Effects: Possible effects observed.

Mutagenicity: Possible effects observed.

Neurotoxicity: No information available

Other Studies: No information available

12. Ecological Information

Environmental Fate: No information available

Physical: No information available

Environmental Toxicity:

Daphnia: EC50 < 5000 mg/L, 48H

Fish: Gold orfe: LC50 < 4500 mg/L, 96H

Bacteria: EC50, >9000 mg/L, 48H

Algae: IC50, >500mg/L, 72H

Log Pow: No information available; BOD < 120 mg/L; COD < 1800 mg/L

13. Disposal Considerations

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated for transportation.

15. Regulatory Information

US Federal Regulations:

TSCA: Listed on the TSCA Inventory.

Health and Safety Reporting List: Not listed.

Chemical Test Rules: 40 CFR 799.5000.

Section 12b: Not listed..

TSCA Significant New Use Rule: Does not have an SNUR under TSCA.

CERCLA Hazardous Substances: does not have an RQ

SARA Section 302: Does not have a TPQ

SARA Codes:– immediate, delayed, fire

Section 313: Subject to SARA Title III Section 313 reporting requirements.

Clean Air Act: Not listed as a hazardous air pollutant (HAP). It is not a Class 1 Ozone Depleter. It is not a Class 2 Ozone Depleter.

Clean Water Act: Not listed as a Hazardous Substance. It is not a Priority Pollutant. It is not a Toxic Pollutant.

OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

On the following state right-to-know lists: Pennsylvania, Minnesota, and Massachusetts.
California Prop 65: California No Significant Risk Level: Not listed

Canada:

DSL/NDS: Listed on Canada's DSL list.

WHMIS: This product has a WHMIS classification of B3, D2A, D2B. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and this MSDS contains all the information required by those regulations.

Ingredient Disclosure List: No information available

DSCL (EEC):

Hazard Symbols: Xi, T

Risk Phrases: R36/37/38 – Irritating to eyes, respiratory system, skin; R61 – May cause harm to the unborn child.

Safety Phrases: S26 – In case of contact with eyes, rinse with plenty of water and seek medical advice; S37/39 – Wear suitable gloves and eye/face protection; S45 – In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible); S53 – Avoid exposure, obtain special instructions before use.

WGK (Water Danger/protection): 1

16. Other Information**References:**

Chemical Abstract databases. OSHA, SARA. Other similar compound's SDS.

Other Special Considerations: Not available

Created: Apr. 27, 2020

Revision Information: Version 2

Last Updated: Apr. 14, 2021

Product Use: Laboratory Reagent.

Disclaimer:

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