

# Safety Data Sheet

## MANUFACTURER

CellMosaic, Inc.  
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## General Information

**Trade Name:** PerKit™ Antibody Methotrexate Conjugation Kit  
**Part No. Covered by this SDS:** CM11407x1, CM11407x3

## Product Content

- 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 supplemental information.

## Transportation

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

**Supplemental information starts from next page.**

## Methotrexate N-hydroxysuccinimide Ester

### SECTION 1. Identification of the substance/mixtures and of the company/undertaking

#### 1.1 Product identifiers

Product Name: Methotrexate N-hydroxysuccinimide ester

Product No.: CM11009.1

#### 1.2 Detail of the supplier of the safety data sheet

Company: CellMosaic, Inc. 10A Roessler Road, Woburn, MA 01801, Phone: +1 781-463-0002

### SECTION 2. Hazards Identification

#### 2.1. Classification of the substance or mixture



#### 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

#### 2.2. GHS Label elements, including precautionary statements.

**Signal Word:** DANGER!

#### **Hazard Statement(s):**

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.

### SECTION 3. Composition and Information on Ingredients

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

#### **SECTION 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.

#### **SECTION 5. Fire Fighting Measures**

##### **5.1. Flammability**

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<sub>x</sub>).

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.

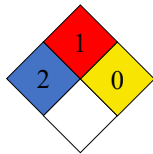
##### **5.2 NFPA**

Health Rating: 2

Flammability Rating: 1

Reactivity: 0

Specific Hazard: N/A



#### **SECTION 6. Accidental Release 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.

#### **SECTION 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.

#### **SECTION 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.

## **SECTION 9. Physical and Chemical Properties**

**Physical State and Appearance:** Yellow color solid.

**Odor:** No information available.

**Solubility:** Soluble in organic solvents.

**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:** C<sub>28</sub>H<sub>28</sub>N<sub>10</sub>O<sub>9</sub>

**Molecular Weight:** 648.59

## **SECTION 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.

## **SECTION 11. Toxicological Information**

The toxicological effects of this product has not been thoroughly studied.

## **SECTION 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.

## **SECTION 13. Disposal Considerations**

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

#### **SECTION 14. Transport Information**

**DOT (US):**

UN number: 1544 Class: 6.1 Packing group: III

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

**IATA:**

UN number: 1544 Class: 6.1 Packing group: III

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

#### **SECTION 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 the State of California to cause cancer, birth defects, or any other reproductive harm.

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

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

#### **SECTION 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

### SECTION 1. Identification of the substance/mixtures and of the company/undertaking

#### 1.1. Product identifiers

Product Name: Solution A  
Product No.: CM01008

#### 1.2. Detail of the supplier of the safety data sheet

Company: CellMosaic, Inc. 10A Roessler Road, Woburn, MA 01801, Phone: +1 781-463-0002

### SECTION 2. Hazards Identification

#### 2.1. Classification of the substance or mixture



Flammable liquids	GHS Category 4
Eye Irritation	GHS Category 2
Reproductive Toxicity	GHS Category 2A

#### 2.2. GHS Label elements, including precautionary statements.

**Signal Word:** WARNING!

**Hazard Statement(s):**

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 Statement(s):**

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.

### SECTION 3. Composition and Information on Ingredients

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

### SECTION 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. Wash clothing before reuse. Thoroughly clean shoes before reuse. 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.

### SECTION 5. Fire Fighting Measures

#### 5.1. Flammability

Combustible liquid and vapor. (GHS Category 4)  
Flash Point: 64 °C (147 °F)  
Autoignition Temperature: >200 °C (392 °F)  
Flammable Limits: Lower Limit 1.8 vol%, Upper Limit 11.5 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 chemicals, carbon dioxide, water spray, or appropriate foam.

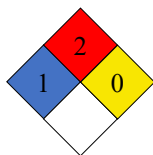
## 5.2. NFPA

**Health Rating:** 1

**Flammability Rating:** 2

**Instability:** 0

**Physical hazards** N/A



## SECTION 6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** use personal protective equipment. Avoid dust formation. Avoid breathing dust. For personal protection see section 8.

**Environmental precautions:** No special environmental precautions required.

**Methods and materials for containment and cleaning up:** 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.

**Reference to other sections:** for disposal see section 13.

## SECTION 7. Handling and Storage

**Handling:** 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 it in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

## SECTION 8. Exposure Controls/Personal Protection

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities for storing or using the material should be equipped with an 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 respirators when necessary.

**Exposure Limits:** None established.

## SECTION 9. Physical and Chemical Properties

**Physical State and Appearance:** Clear, Colorless liquid.

**Odor:** None.

**Solubility:** Water soluble.

**Specific Gravity:** No information available.

**pH:** slightly basic 8-10 (100 g/L H<sub>2</sub>O).

**Boiling Point:** 164-165 °C.

**Freezing/Melting Point:** -20 °C.

**Flash Point:** No information available.

**Vapor Density (Air=1):** 3.01

**Vapor Pressure:** N/A.

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

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

**Autoignition Temperature:** 345 °C.

**Decomposition Temperature:** No information available.

**Viscosity:** N/A.

**Molecular Formula:** N/A.

**Molecular Weight:** N/A.





## **SECTION 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:** Ignition sources, excess heat.

## **SECTION 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 rats after repeated, high-dose oral and inhalation exposures (BASF). Human occupational exposure has been associated with chronic eye irritation, headaches, and irritant contact dermatitis.

### **Animal Toxicity:**

Oral, mouse: LD50 >4620 mg/kg.

Oral, rat: LD50 >4800 mg/kg.

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

**Epidemiology:** No information available.

**Teratogenicity:** No teratogenic effect was observed at or below dosage levels of 160 mg/kg/day.

**Reproductive Effects:** Possible effects observed.

**Mutagenicity:** Possible effects observed.

**Neurotoxicity:** No information available.

**Other Studies:** No information available.

## **SECTION 12. Ecological Information**

**Environmental Fate:** Biodegradability aerobic - Exposure time 28 d Result: 70 % - Readily biodegradable. (OECD Test Guideline 301C).

### **Environmental Toxicity:**

Daphnia: EC50 >500 mg/L, 48H.

Fish: Gold orfe: LC50 > 500 mg/L, 96H.

Bacteria: EC50, >1995 mg/L, 30 min.

Algae: ErC50, >500mg/L, 72H.

## **SECTION 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 hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of containers and unused contents in accordance with federal, state and local requirements.

## **SECTION 14. Transport Information**

### **DOT (US)**

NA-Number: 1993 Class: NONE.

Packing group: III Proper shipping name: Combustible liquid.

Poison Inhalation Hazard: No.

### **IMDG**

Not dangerous goods.

### **IATA**

Not dangerous goods.

## **SECTION 15. Regulatory Information**

SARA 302 Components: This material does not contain any components with a section 302 EHS TPQ.





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

SARA 311/312 Hazards Fire Hazard, Acute Health Hazard, Chronic Health Hazard.

California Prop. 65 Components, which is/are known to the State of California to cause cancer and birth defects or other reproductive harm.

### **SECTION 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, Superfund Amendments and Reauthorization Act (SARA) and other similar compound's SDS.

**Created:** September 07, 2023

**Last Updated:** December 20, 2023

**Disclaimer:**

**Revision Information:** Version 3

**Product Use:** Laboratory Reagent

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**Prepared by:** CellMosaic, Inc. Health and Safety