



# Safety Data Sheet (SDS)

www.medkoo.com

Version: 3.12  
Print Date: 2/12/2021  
Revision Date: 2/12/2021

## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product name: Methotrexate  
Product Catalogue Number: 100610  
Brand: MedKoo Biosciences  
CAS-No: 59-05-2

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Synthesis of substances.

### 1.3 Details of the supplier of the safety data sheet

Company: MedKoo Biosciences, Inc.  
2500 Gateway Centre Blvd. Suite 400, Morrisville, NC27560, USA  
Telephone: 919-636-5577  
Fax: 919-980-4831

### 1.4 Emergency telephone number

For chemical emergency spill, leak, fire, exposure, or accident call CHEMTREC day or night: Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887 (collect calls accepted).

## 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 Label elements

#### Pictogram



#### 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.  
P280: Wear protective gloves/ eye protection/ face protection.  
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
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 attention/advice.  
P330: Rinse mouth.  
P332 + P313: If skin irritation occurs, get medical advice/attention.  
P337 + P313: If eye irritation persists, get medical advice/attention.  
P362 + P364: Take off contaminated clothing and wash before reuse.

### 2.3 Other hazards: No data available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Synonyms: alpha-methopterin; amethopterin; Methotrexatum; methylaminopterin; Metotrexato; Abitrexate; Folex; Methotrexate LPF; Mexate; Mexate-AQ; Lantarel; Ledertrexate; Lumexon; Maxtrex; Medsatrexate; Metex; Methoblastin; Metrotex; Novatrex; Texate; Tremetex; MTX. CL-14377; WR-19039; CL 14377; WR 19039; CL14377; WR19039  
Formula:  $C_{20}H_{22}N_8O_5$   
Molecular weight: 454.44  
CAS-No: 59-05-2

Component	Classification	Concentration
Methotrexate	Acute Tox.(O) 3: H301, Skin Corr. 2: H315, Eye Damage 2A: H319, Toxic Repro. 1B: H360	<= 100 %

## 4. FIRST AID MEASURES

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### 4.1 Description of first aid measures

#### General advice

Consult a doctor and show this safety data sheet.

#### If inhaled

Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.

#### In case of skin contact

Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor.

#### In case of eye contact

Flush with copious amounts of water for at least 15 minutes. Consult a doctor.

#### If swallowed

Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor.

### 4.2 Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

### 4.3 Indication of immediate medical attention and special treatment needed

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

## 5. FIRE-FIGHTING MEASURES

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### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

In combustion, may emit toxic fumes.

### 5.3 Precautions for fire-fighters

Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

## 6. ACCIDENTAL RELEASE MEASURES

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### 6.1 Personal precautions, protective equipment and emergency procedures

Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust or gas.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Cover spillage with suitable absorbent material. Sweep up material and place in an appropriate container. Hold all material for appropriate disposal as described under section 13 of SDS.

### 6.4 Reference to other sections

For required PPE see section 8. For disposal see section 13.

## 7. HANDLING AND STORAGE

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### 7.1 Precautions for safe handling

Use in a chemical fume hood, with air supplied by an independent system. Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

### 7.2 Conditions for safe storage, including any incompatibilities.

Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use. Recommended storage temperature: Store at -20°C

### 7.3 Specific end uses

Use in a laboratory fume hood where possible. Refer to employer's COSHH risk assessment.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.

#### Personal protective equipment

##### Eye/face protection

Use appropriate safety glasses.

##### Skin protection

Use appropriate chemical resistant gloves (minimum requirement use standard BS EN 374:2003). Gloves should be inspected before use. Wash and dry hands thoroughly after handling.

##### Body protection

Wear appropriate protective clothing.

### Respiratory protection

If risk assessment indicates necessary, use a suitable respirator.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	Yellow to orange crystalline solid	Vapor pressure	No data available
Odor	No data available	Vapor density	No data available
Odor threshold	No data available	Relative density	No data available
pH	No data available	Solubility(ies)	~1 mg/ml in PBS (pH 7.2); ~3 mg/ml in DMSO; ~14 mg/ml in DMF
Melting / freezing point	No data available	Partition coefficient	No data available
Boiling point / range	No data available	Auto-ignition temperature	No data available
Flash point	No data available	Decomposition temperature	No data available
Evaporation rate	No data available	Viscosity	No data available
Flammability (solid, gas)	No data available	Explosive properties	No data available
Upper / lower flammability or explosive limits	No data available	Oxidising properties	No data available

### 9.2 Other safety information

No data available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Stable under recommended transport or storage conditions.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

### 10.4 Conditions to avoid

Heat, moisture.

### 10.5 Incompatible materials

Strong acids, strong oxidizing agents.

### 10.6 Hazardous decomposition products

In combustion may emit toxic fumes: carbon dioxide, carbon monoxide, nitrogen oxides. No known decomposition information.

## 11. TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects:** Oral TDLO (man): 643 ug/kg/6W (intermittent); Oral TDLO (woman): 800 µg/kg/4D (intermittent); Oral LD50 (rat): 135 mg/kg; Subcutaneous LD50 (rat): 58 mg/kg; Oral TDLO (rat): 1 mg/kg; Intraperitoneal LD50 (rat): 6 mg/kg; Subcutaneous LD50 (rat): 58 mg/kg; Oral LD50 (mouse): 146 mg/kg; Subcutaneous LD50 (mouse): 250 mg/kg; Intraperitoneal TDLO(mouse): 0.5 mg/kg

**Chronic Toxicological Effects:** Methotrexate - Investigated as an agricultural chemical, drug, mutagen, primary irritant, reproductive effector, and tumorigen.

### Additional Information

RTECS No: MA1225000

IARC: Group 3: Not classifiable as to its carcinogenicity to humans (Methotrexate)

Exposure may cause irritation of eyes, mucous membranes, upper respiratory tract and skin.

To the best of our knowledge, the chemical, physical and toxicological properties have not been fully investigated

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Avoid release into the environment.

Runoff from fire control or dilution water may cause pollution.

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

No data available

### 12.6 Other adverse effects

No data available

### 13. DISPOSAL CONSIDERATIONS

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#### 13.1 Waste treatment methods

##### Product

Transfer to a suitable container and arrange for collection by specialized disposal company in accordance with National legislation.

##### Contaminated packaging

Dispose of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with National legislation.

### 14. TRANSPORT INFORMATION

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Classified according to the criteria of the UN Model Regulations as reflected in the IMDG Code, ADR, RID and IATA.

#### 14.1 Land Transport (US DOT)

**DOT Proper Shipping Name:** Alkaloids, solid, n.o.s. (Methotrexate)

**DOT Hazard Class:** 6.1 POISON

**UN/NA Number:** UN1544     **Packing Group:** III

#### 14.1 Land Transport (European ADR/RID):

**ADR/RID Shipping Name:** Alkaloids, solid, n.o.s. (Methotrexate)

**UN Number:** 1544     **Packing Group:** III

**Hazard Class:** 6.1 – POISON

#### 14.3 AIR TRANSPORT (ICAO/IATA)

**ICAO/IATA Shipping Name:** Alkaloids, solid, n.o.s. (Methotrexate)

**UN Number:** 1544     **Packing Group:** III

**Hazard Class:** 6.1 – POISON     **IATA Classification:** 6.1

**Additional Transport Information:** Transport in accordance with local, state, and federal regulations. When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

### 15. REGULATORY INFORMATION

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This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No data available

##### California Proposition 65

Applicable (YES), RDTTox

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been made for this product.

### 16. OTHER INFORMATION

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#### Further Information

Copyright © Medkoo Bioscience. This company shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists. See [www.medkoo.com](http://www.medkoo.com) for additional terms and conditions of sale.

#### Preparation Information

MedKoo Biosciences, Inc.

Product Safety – multiple Region

Tel: 919-636-5577

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