



# MATERIAL SAFETY DATA SHEET

Revision date: 30-Jan-2007

Version: 1.1

Page 1 of 6

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

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ChemSafe (24 hours): +44 (0)208 762 8322

**Material Name: Methotrexate Solution for Injection - 2.5 mg/ml**

**Trade Name:** Methoblastin; Maxtrex; Methotrexat  
**Chemical Family:** Mixture  
**Intended Use:** Antineoplastic

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

### Hazardous

Ingredient	CAS Number	EU EINECS List	%
Methotrexate	59-05-2	200-413-8	0.25
Sodium hydroxide	1310-73-2	215-185-5	###

Ingredient	CAS Number	EU EINECS List	%
Water for Injection	7732-18-5	231-791-2	*
Sodium chloride	7647-14-5	231-598-3	*

**Additional Information:** \* Proprietary  
### as required.  
Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety.

## 3. HAZARDS IDENTIFICATION

**Appearance:** Clear yellow solution

**Statement of Hazard:** Non-hazardous in accordance with international standards for workplace safety.

### Additional Hazard Information:

#### Short Term:

May be absorbed through the skin and cause systemic effects. May be harmful if swallowed. (based on components) .

#### Long Term:

Animal studies have shown a potential to cause adverse effects on the fetus. The use of this drug during pregnancy has resulted in birth defects.

### Known Clinical Effects:

Adverse effects associated with the therapeutic use include gastrointestinal disturbances such as nausea, dyspepsia, and vomiting and gastrointestinal irritation. Effects on blood and blood-forming organs have also occurred.

### EU Indication of danger:

Not classified

## MATERIAL SAFETY DATA SHEET

Material Name: Methotrexate Solution for Injection - 2.5 mg/ml  
Revision date: 30-Jan-2007

Page 2 of 6  
Version: 1.1

**Note:** This document has been prepared in accordance with standards for workplace safety, which require the inclusion of all known hazards of the active substance or its intermediates regardless of the potential risk. The precautionary statements and warnings included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

### 4. FIRST AID MEASURES

**Eye Contact:** Immediately flush eyes with water for at least 15 minutes. If irritation occurs or persists, get medical attention.

**Skin Contact:** Remove clothing and wash affected skin with soap and water. This material may not be completely removed by conventional laundering. Consult professional laundry service. Do not home launder. If irritation occurs or persists, get medical attention.

**Ingestion:** Get medical attention. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

### 5. FIRE FIGHTING MEASURES

**Extinguishing Media:** Use carbon dioxide, dry chemical, or water spray.

**Hazardous Combustion Products:** Formation of toxic gases is possible during heating or fire.

**Fire Fighting Procedures:** During all fire fighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

**Fire / Explosion Hazards:** Not applicable

### 6. ACCIDENTAL RELEASE MEASURES

**Health and Safety Precautions:** Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

**Measures for Cleaning / Collecting:** Contain the source of spill if it is safe to do so. Collect spill with absorbent material. Clean spill area thoroughly.

**Measures for Environmental Protections:** Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

**Additional Consideration for Large Spills:** Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

### 7. HANDLING AND STORAGE

## MATERIAL SAFETY DATA SHEET

Material Name: Methotrexate Solution for Injection - 2.5 mg/ml  
Revision date: 30-Jan-2007

Page 3 of 6  
Version: 1.1

**General Handling:** Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Wash thoroughly after handling. Avoid open handling.

**Storage Conditions:** Store as directed by product packaging.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Methotrexate

Pfizer OEL TWA-8 Hr: 2 ug/m<sup>3</sup>

#### Sodium hydroxide

OSHA - Final PELs - TWAs: 2 mg/m<sup>3</sup>  
ACGIH Ceiling Threshold Limit: = 2 mg/m<sup>3</sup> Ceiling  
Australia PEAK = 2 mg/m<sup>3</sup> Peak

The exposure limit(s) listed for solid components are only relevant if dust or mist may be generated.

**Engineering Controls:** Engineering controls should be used as the primary means to control exposures. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

#### Personal Protective Equipment:

**Hands:** Wear impervious gloves if skin contact is possible.  
**Eyes:** Safety glasses or goggles  
**Skin:** Wear protective clothing with long sleeves to avoid skin contact. Wash hands and arms thoroughly after handling this product.  
**Respiratory protection:** If the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEL.

### 9. PHYSICAL AND CHEMICAL PROPERTIES:

<b>Physical State:</b>	Solution	<b>Color:</b>	Clear Yellow
<b>Molecular Formula:</b>	Mixture	<b>Molecular Weight:</b>	Mixture

### 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions of use.  
**Conditions to Avoid:** None known  
**Incompatible Materials:** As a precautionary measure, keep away from strong oxidizers.

### 11. TOXICOLOGICAL INFORMATION

**General Information:** There are no data for this formulation. The information included in this section describes the potential hazards of the individual ingredients.

#### Acute Toxicity: (Species, Route, End Point, Dose)

#### Methotrexate

Rat	Oral	LD50	135 mg/kg
Rat	Intraperitoneal	LD50	6 mg/kg
Rat	Intravenous	LD50	14 mg/kg

## MATERIAL SAFETY DATA SHEET

Material Name: Methotrexate Solution for Injection - 2.5 mg/ml  
Revision date: 30-Jan-2007

Page 4 of 6  
Version: 1.1

Mouse Oral LD50 146 mg/kg  
Not Specified Inhalation LC50 > 188 ug/m<sup>3</sup>

### Sodium chloride

Rat Oral LD50 3000 mg/kg  
Mouse Oral LD 50 4000 mg/kg

### Sodium hydroxide

Mouse IP LD50 40 mg/kg

**Acute Toxicity Comments:** A greater than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.

### Irritation / Sensitization: (Study Type, Species, Severity)

#### Sodium chloride

Eye Irritation Rabbit Moderate  
Skin Irritation Rabbit Mild

#### Sodium hydroxide

Eye Irritation Rabbit Severe  
Skin Irritation Rabbit Severe

### Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)

#### Methotrexate

4 Week(s) Rat Oral 5.6 mg/kg LOAEL Bone marrow, Liver  
6 Week(s) Rat Oral 4.2 mg/kg LOAEL Bone Marrow, Liver

#### Sodium chloride

10 Day(s) Rat Oral 12500 mg/kg LOAEL Kidney, Ureter, Bladder

### Reproduction & Developmental Toxicity: (Study Type, Species, Route, Dose, End Point, Effect(s))

#### Methotrexate

Embryo / Fetal Development Mouse Oral 10 mg/kg/day NOAEL Not teratogenic  
Embryo / Fetal Development Mouse Oral 25-50 mg/kg/day LOAEL Teratogenic  
Embryo / Fetal Development Monkey Intravenous 30 mg/kg/day LOAEL Developmental toxicity  
Embryo / Fetal Development Rat Intraperitoneal 5 mg/kg LOAEL Fetotoxicity

### Genetic Toxicity: (Study Type, Cell Type/Organism, Result)

#### Methotrexate

*In Vitro* Chromosome Aberration Human Lymphocytes Positive  
*In Vitro* Sister Chromatid Exchange Mouse Positive  
Unscheduled DNA Synthesis Human Lymphocytes Positive  
*In Vivo* Micronucleus Mouse Positive

**Carcinogen Status:** None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA. See below

#### Methotrexate

**IARC:** Group 3

## MATERIAL SAFETY DATA SHEET

Material Name: Methotrexate Solution for Injection - 2.5 mg/ml  
Revision date: 30-Jan-2007

Page 5 of 6  
Version: 1.1

### 12. ECOLOGICAL INFORMATION

**Environmental Overview:** Environmental properties have not been thoroughly investigated. Releases to the environment should be avoided.

### 13. DISPOSAL CONSIDERATIONS

**Disposal Procedures:** Dispose of waste in accordance with all applicable laws and regulations.

### 14. TRANSPORT INFORMATION

Not regulated for transport under USDOT, EUADR, IATA, or IMDG regulations.

### 15. REGULATORY INFORMATION

**EU Indication of danger:** Not classified

#### OSHA Label:

Non-hazardous in accordance with international standards for workplace safety.

#### Canada - WHMIS: Classifications

##### WHMIS hazard class:

D2a very toxic materials



##### Methotrexate

California Proposition 65	Listed - Developmental Toxicity
Inventory - United States TSCA - Sect. 8(b)	Present
Australia (AICS):	Present
Standard for the Uniform Scheduling for Drugs and Poisons:	Schedule 4
EU EINECS List	200-413-8

##### Water for Injection

Inventory - United States TSCA - Sect. 8(b)	Present
Australia (AICS):	Present
EU EINECS List	231-791-2

## MATERIAL SAFETY DATA SHEET

Material Name: Methotrexate Solution for Injection - 2.5 mg/ml  
Revision date: 30-Jan-2007

Page 6 of 6  
Version: 1.1

### Sodium chloride

Inventory - United States TSCA - Sect. 8(b)	Present
Australia (AICS):	Present
EU EINECS List	231-598-3

### Sodium hydroxide

CERCLA/SARA Hazardous Substances and their Reportable Quantities:	= 1000 lb final RQ = 454 kg final RQ
Inventory - United States TSCA - Sect. 8(b)	Present
Australia (AICS):	Present
Standard for the Uniform Scheduling for Drugs and Poisons:	Schedule 5 Schedule 6
EU EINECS List	215-185-5

## 16. OTHER INFORMATION

### Reasons for Revision:

Updated Section 3 - Hazard Identification. Updated Section 5 - Fire Fighting Measures. Updated Section 6 - Accidental Release Measures. Updated Section 7 - Handling and Storage. Updated Section 8 - Exposure Controls / Personal Protection. Updated Section 10 - Stability and Reactivity. Updated Section 11 - Toxicology Information. Updated Section 13 - Disposal Considerations. Updated Section 15 - Regulatory Information.

### Prepared by:

Toxicology and Hazard Communication  
Pfizer Global Environment, Health, and Safety

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**End of Safety Data Sheet**