

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Metho-AUS/DP-004

Effective Date: 03 October 2025

METHOTREXATE INJECTION, 50 MG/2 ML AND 1000 MG/10 ML

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product Name: Methotrexate Injection, 50 mg/2 mL and 1000 mg/10 mL

Sponsor

Accord Healthcare Pty Ltd
Level 24, 570 Bourke Street,
Melbourne, VIC, 3000,
Australia

Telephone: 1800 222 673
(hours 8:30am – 4:30pm)

SECTION 2 – HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture:

GHS – Classification:

Germ Cell Mutagenicity	: Category 2
Reproductive Toxicity	: Category 1A
Acute Toxicity	: Category 3
Reproductive toxicity	: Category 1A

Label Elements:



Signal Word: Danger

Hazard Statements:

H301	- Toxic if swallowed
H360D	- May damage the unborn child
H341	- Suspected of causing genetic defects

Precautionary Statements:

P202	- Do not handle until all safety precautions have been read and understood.
P281	- Use personal protective equipment as required.
P308 + P313	- If exposed or concerned: Get medical advice/attention. Immediately call a poison center or doctor/physician. Rinse mouth.
P405	- Store locked up.

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Metho-AUS/DP-004

Effective Date: 03 October 2025

P501 - Dispose of contents/container in accordance with local, state, federal and provincial regulations.

Other Hazards: An Occupational Exposure Value has been established for one or more of the ingredients (see Section 8).

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

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Active: Methotrexate.

Inactive (50 mg/2 mL): Sodium Chloride, Sodium Hydroxide, Water for Injection.

Inactive (1000 mg/10 mL): Sodium Hydroxide, Water for Injection.

Ingredient	CAS Number	EU EINECS/ELINCS List	GHS Classification	%
Methotrexate	59-05-2	200-413-8	Acute Tox.3 (H301) Repr.1A (H360D) Muta.2 (H341)	2.5
Sodium chloride	7647-14-5	231-598-3	Not Listed	
Sodium hydroxide	1310-73-2	215-185-5	Skin Corr.1A (H314)	*
Water for Injection	7732-18-5	231-791-2	Not Listed	

Additional Information: * to adjust pH,

Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety.

In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

For the full text of the CLP/GHS abbreviations mentioned in this Section, see Section 16

SECTION 4 - FIRST AID MEASURES

Description of Necessary First Aid Measures:

Eye Contact: Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention immediately.

Skin Contact: Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Metho-AUS/DP-004

Effective Date: 03 October 2025

Inhalation: Remove to fresh air and keep patient at rest. Seek medical attention immediately.

Symptoms and Effects of Exposure: For information on potential signs and symptoms of exposure, See Section 2 – Hazards Identification and/or Section 11 - Toxicological Information.

Medical Conditions Aggravated by Exposure: None known.

Medical Attention and Special Treatment: None.

SECTION 5 - FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Extinguish fires with CO₂, extinguishing powder, foam, or water.

Special Hazards Arising from the Substance or Mixture: Formation of toxic gases is possible during heating or fire.

Special Protective Equipment and Precautions for Fire-Fighters: During all firefighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

Fire / Explosion Hazards: Fine particles (such as dust and mists) may fuel fires/explosions.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

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

Methods and Material for Containment and Cleaning Up: Contain the source of spill if it is safe to do so. Collect spill with absorbent material. Clean spill area thoroughly.

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.

SECTION 7 - HANDLING AND STORAGE

Precautions for Safe Handling: Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash hands and any exposed skin after removal of PPE. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Metho-AUS/DP-004

Effective Date: 03 October 2025

material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Conditions for Safe Storage, Including any Incompatibilities: Store as directed by product packaging.

Specific end use(s): Pharmaceutical product used as Antineoplastic.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters – Exposure Standards, Biological Monitoring:

Methotrexate:

OEL TWA-8 Hr : $2\mu\text{g}/\text{m}^3$

Sodium chloride:

Latvia OEL - TWA : $5\text{ mg}/\text{m}^3$

Lithuania OEL - TWA : $5\text{ mg}/\text{m}^3$

Sodium hydroxide:

ACGIH Ceiling Threshold Limit : $2\text{ mg}/\text{m}^3$

Australia PEAK : $2\text{ mg}/\text{m}^3$

Appropriate Engineering Controls: Engineering controls should be used as the primary means to control exposures. General room ventilation is adequate unless the process generates dust, mist or fumes. Keep airborne contamination levels below the exposure limits listed above in this section.

Personal Protective Equipment: Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE). Contact your safety and health professional or safety equipment supplier for assistance in selecting the correct protective clothing/equipment based on an assessment of the workplace conditions, other chemicals used or present in the workplace and specific operational processes.

Hands: Impervious disposable gloves (e.g. Nitrile, etc.) (double recommended) if skin contact with drug product is possible and for bulk processing operations. (Protective gloves must meet the standards in accordance with EN374, ASTM F1001 or international equivalent.)

Eyes: Wear safety glasses or goggles if eye contact is possible. (Eye protection must meet the standards in accordance with EN166, ANSI Z87.1 or international equivalent.)

Skin: Impervious disposable protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations. (Protective clothing must meet the standards in accordance with EN13982, ANSI 103 or international equivalent.)

Respiratory protection: Under normal conditions of use, if the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with a protection factor sufficient to control

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Metho-AUS/DP-004

Effective Date: 03 October 2025

exposures to below the OEL (e.g. particulate respirator with a full mask, P3 filter). (Respirators must meet the standards in accordance with EN140, EN143, ASTM F2704-10 or international equivalent.)

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Solution
Colour	:	Clear, yellow
Odour	:	No data available
Odour Threshold	:	No data available
Solvent Solubility	:	No data available
Water Solubility	:	No data available
pH	:	No data available
Melting/Freezing Point (°C)	:	No data available
Boiling Point and boiling range (°C)	:	No data available
Partition Coefficient (<i>water for injection</i>)	:	No data available
Sodium Chloride	:	No data available
Sodium Hydroxide	:	No data available
Methotrexate	:	No data available
Decomposition Temperature (°C)	:	No data available
Evaporation Rate (Gram/s)	:	No data available
Vapour Pressure (kPa)	:	No data available
Vapour Density (g/ml)	:	No data available
Relative Density	:	No data available
Viscosity	:	No data available
Auto-ignition Temperature (Solid) (°C)	:	No data available
Flammability (Solids)	:	No data available
Flash Point (Liquid) (°C)	:	No data available
Upper Flammability or Explosive Limits (Liquid) (% by Vol.)	:	No data available
Lower Flammability or Explosive Limits (Liquid) (% by Vol.)	:	No data available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical Stability: Stable under normal conditions of use.

Conditions to Avoid: Fine particles (such as dust and mists) may fuel fires/explosions.

Incompatible Materials and Possible Hazardous Reactions: As a precautionary measure, keep away from strong oxidizers.

Hazardous Decomposition Products: No data available.

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Metho-AUS/DP-004

Effective Date: 03 October 2025

SECTION 11 – TOXICOLOGICAL INFORMATION

The information included in this section describes the potential hazards of the active ingredient.

Information on Toxicological Effects:

Short Term: May be absorbed through the skin and cause systemic effects.

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

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

Acute Toxicity:

Sodium Chloride:

Species	Route	End Point	Dose
Rat	Oral	LD 50	3000 mg/kg
Mouse	Oral	LD 50	4000 mg/kg

Sodium Hydroxide:

Species	Route	End Point	Dose
Mouse	Intraperitoneal	LC 50	40 mg/kg

Methotrexate:

Species	Route	End Point	Dose
Rat	Oral	LD 50	135 mg/kg
Rat	Sub-tenon injection (eye)	LD 50	6 mg/kg
Rat	Intravenous	LC 50	14 mg/kg
Mouse	Oral	LD50	146 mg/kg
Not Specified	Inhalation	LD50	>188 ug/m ³

A great than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.

Irritation / Sensitization:

Sodium Chloride:

Study Type	Species	Severity
Eye Irritation	Rabbit	Moderate
Skin Irritation	Rabbit	Mild

Sodium Hydroxide:

Study Type	Species	Severity
Eye Irritation	Rabbit	Severe
Skin Irritation	Rabbit	Severe

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Metho-AUS/DP-004

Effective Date: 03 October 2025

Repeated Dose Toxicity:

Methotrexate:

Duration	Species	Route	Dose	End Point	Target Organ
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

Reproduction & Development Toxicity:

Methotrexate:

Study Type	Species	Route	Dose	End Point	Effect(s)
Embryo / Fetal Development	Mouse	Oral	10 mg/kg/day	LOAEL	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:

Methotrexate:

Study Type	Cell Type/Organism	Result
<i>In Vitro</i> Chromosome Aberration	Human Lymphocytes	Positive
<i>In Vivo</i> Sister Chromatid Exchange	Mouse	Positive
Unscheduled DNA Synthesis	Human Lymphocytes	Positive
<i>In Vivo</i> Micronucleus	Mouse	Positive

Carcinogen Status: Not listed as a carcinogen by IARC, NTP or US OSHA.

Methotrexate:

LARC:Group 3 (Not Classifiable)

SECTION 12 – ECOLOGICAL INFORMATION

Environmental Overview: The environmental characteristics of this material have not been fully evaluated. Releases to the environment should be avoided.

Toxicity: No data available

Persistence and Degradability: No data available.

Bio-accumulative Potential: No data available

Mobility in Soil: No data available.

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Metho-AUS/DP-004

Effective Date: 03 October 2025

Other Adverse Effects: No data available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

SECTION 14 - TRANSPORTATION INFORMATION

The following refers to all modes of transportation unless specified below.

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

SECTION 15 - REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Methotrexate:

CERCLA/SARA 313 Emission reporting	: Not Listed
California Proposition 65	: developmental toxicity 1/1/1989
Inventory - United States TSCA - Sect. 8(b)	: Present
Australia (AICS):	: Present
Standard for the Uniform Scheduling for Drugs and Poisons	: Schedule 4
EU EINECS/ELINCS List	: 200-413-8

Sodium hydroxide:

CERCLA/SARA 313 Emission reporting	: Not Listed
CERCLA/SARA Hazardous substances and their reportable quantities	: 1000 lb 454 kg
California Proposition 65	: Not Listed
Inventory - United States TSCA - Sect. 8(b)	: Present
Australia (AICS):	: Present
Standard for the Uniform Scheduling for Drugs and Poisons	: Schedule 5 Schedule 6
Australia (AICS)	: Present
EU EINECS/ELINCS List	: 215-185-5

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Metho-AUS/DP-004

Effective Date: 03 October 2025

Sodium Chloride:

CERCLA/SARA 313 Emission reporting	: Not Listed
California Proposition 65	: Not Listed
Inventory - United States TSCA - Sect. 8(b)	: Present
Australia (AICS)	: Present
EU EINECS/ELINCS List	: 231-598-3

Water for Injection:

CERCLA/SARA 313 Emission reporting	: Not Listed
California Proposition 65	: Not Listed
Inventory - United States TSCA - Sect. 8(b)	: Present
Australia (AICS)	: Present
REACH - Annex IV - Exemptions from the obligations of Register	: Present
EU EINECS/ELINCS List	: 231-791-2

SECTION 16 - OTHER INFORMATION

Abbreviations:

ACGIH	: American Conference of Governmental Industrial Hygienists
AICS	: Australian Inventory of Chemical Substances
AIHA	: American Industrial Hygiene Association
ANSI	: American National Standards Institute
CAS	: Number Chemical Abstract Service Registry Number
CERCLA	: Comprehensive Environmental Response Compensation and Liability Act
CHAN	: Chemical Hazard Alert Notice
CHEMTREC	: Chemical Transportation Emergency Center
DOT	: Department of Transportation
DSL	: Domestic Substances List
ECHA	: European Chemicals Agency
EINECS	: European Inventory of Existing Commercial Chemical Substances
ELINCS	: European List of Notified Chemical Substances
EPA	: Environmental Protection Agency
GHS	: Globally Harmonized System of Classification and Labelling of Chemicals
HEPA	: High Efficiency Particulate Air (Filter)
HMIS	: Hazardous Materials Identification System
IARC	: International Agency for Research on Cancer
ICAO/IATA	: International Civil Aviation Organization/International Air Transport
IMO	: International Maritime Organization
KOW	: Octanol/Water Partition Coefficient
LEL	: Lower Explosive Limit
MSDS	: Material Safety Data Sheet
MSHA	: Mine Safety and Health Administration
NA	: Not Applicable, except in Section 14 where NA = North America
NE	: Not Established
NADA	: New Animal Drug Application

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Metho-AUS/DP-004

Effective Date: 03 October 2025

NAIF	: No Applicable Information Found
NCI	: National Cancer Institute
NDSL	: Non-Domestic Substances List
NFPA	: National Fire Protection Association
NIOSH	: National Institute for Occupational Safety and Health
NPDES	: National Pollutant Discharge Elimination System
NOS	: Not Otherwise Specified
NTP	: National Toxicology Program
OSHA	: Occupational Safety and Health Administration
OEL	: Occupational Exposure Limit
PEL	: Permissible Exposure Limit (OSHA)
RCRA	: Resource Conservation and Recovery Act
RQ	: Reportable Quantity
RTECS	: Registry of Toxic Effects of Chemical Substances
SARA	: Superfund Amendments and Reauthorization Act
SDS	: Safety Data Sheet
STEL	: Short Term Exposure Limit
TLV	: Threshold Limit Value (ACGIH)
TPQ	: Threshold Planning Quantity
TSCA	: Toxic Substances Control Act
TWA	: Time Weighted Average/8 Hours Unless Otherwise Noted
UEL	: Upper Explosive Limit
UN	: United Nations
USP	: United States Pharmacopeia
WEEL	: Workplace Environmental Exposure Level (AIHA)
WHMIS	: Workplace Hazardous Materials Information System

Data Sources: Information from published literature.

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