

# SAFETY DATA SHEET (SDS)



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**Product Name:** *TransIT-X2®* Dynamic Delivery System

**Product Number:** MIR 6000, MIR 6005, MIR 6006, MIR 6010, MIR 6003, MIR 6004

**Revision Date:** 03APR2024

**Print Date:** 23APR2024

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**SECTION 1. IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1. Product Identifier:**

**1.1.1.Product Name:** *TransIT-X2*<sup>®</sup> Transfection Reagent

**1.1.2.Product Code:** MIR 6000, MIR 6003, MIR 6004, MIR 6005, MIR 6006, MIR 6010

**1.1.3.CAS No.:** Not applicable.

**1.2. Relevant Identified Uses of the Mixture and Uses Advised Against:**

**1.2.1.Identified Uses:** For research use only.

**1.2.2.Uses Advised Against:** Not known.

**1.3. Details of the Supplier of the SDS:**

**1.3.1.Company:** Mirus Bio LLC

**1.3.2.Address:** 5602 Research Park Blvd, Suite 210, Madison, WI 53719, USA

**1.3.3.Telephone No.:** 888.530.0801 (Toll Free within the U.S.) or +1.608.441.2852

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**1.4. Emergency Telephone No.:**

**1.4.1.US and Canada:** +1.800.633.8253

**1.4.2.International:** +1.801.629.0667

**SECTION 2. HAZARDS IDENTIFICATION****2.1. Classification of the Substance or Mixture:**

US CFR 1910.1200

Flammable liquids (Category 2), H225  
Eye irritation (Category 2A), H319

**2.2. Label Elements:****2.2.1.Product Name:**

*TransIT-X2*<sup>®</sup> Transfection Reagent

**2.2.2.Hazard Pictogram(s):****2.2.3.Signal Word(s):**

Danger

**2.2.4.Hazard Statement(s):**

H225: Highly flammable liquid and vapor.

H319: Causes serious eye irritation.

**2.2.5.Precautionary Statement(s):**

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233: Keep container tightly closed.

P240: Ground and bond container and receiving equipment.

P241: Use explosion-proof electrical, ventilating, and lighting equipment.

P242: Use non-sparking tools.

- P243: Take action to prevent static discharges.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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.
- P370+P378: In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
- P403+P235: Store in a well-ventilated place. Keep cool.
- P501: Dispose of contents in accordance with local, state or national legislation.

**2.3. Other Hazards:** None known.

**2.4. Additional Information:** None.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.1. Substances:**

Not applicable.

**3.2. Mixtures:**

Hazardous Ingredient(s)	CAS No.	%W/W	Hazard Statement(s)	Hazard Pictogram(s)
Ethanol	64-17-5	80	Flam. Liq. 2 H225 Eye Irr. 2A H319	GHS 02 GHS 07

### SECTION 4. FIRST AID MEASURES

**4.1. Description of First Aid Measures:**

**4.1.1. Inhalation:** Treat symptomatically.

**4.1.2. Skin Contact:** Take off all contaminated clothing immediately. Rinse skin with water.

**4.1.3. Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a poison center and/or doctor.

**4.1.4. Ingestion:** Rinse mouth with water. Treat symptomatically.

**4.2. Most Important Symptoms and Effects, Both Acute and Delayed:**

May cause irritation.

**4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed:**

Immediately call a poison center and/or doctor. Treat symptomatically.

### SECTION 5. FIREFIGHTING MEASURES

**5.1. Extinguishing Media:**

**5.1.1.Suitable Extinguishing Media:**

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

**5.1.2.Unsuitable Extinguishing Media:**

Water jet spray.

**5.2. Specific Hazards Arising from the Mixture:**

Highly flammable liquid and vapor. May decompose in a fire, giving off toxic and irritant vapors.

**5.3. Advice for Firefighters:**

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. If it is safe to do so, containers should be removed from fire area because they are likely to rupture under fire conditions.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**6.1. Personal Precautions, Protective Equipment and Emergency Procedures:**

Provide adequate ventilation. Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. Wear suitable protective clothing, gloves and eye/face protection.

**6.2. Environmental Precautions:**

This material and its container must be disposed of in a safe way.

**6.3. Methods and Materials for Containment and Cleaning Up:**

Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Containers must not be punctured or destroyed by burning, even when empty.

**SECTION 7. HANDLING AND STORAGE**

**7.1. Precautions for Safe Handling:**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting/equipment. Use non-sparking tools. Take action to prevent static discharges. Wear protective gloves/protective clothing/eye protection/face protection.

**7.2. Conditions for Safe Storage, Including Any Incompatibilities:**

Store in a well-ventilated place. Keep cool.

**7.2.1.Storage Temperature:** -20°C.

**7.2.2.Storage Life:** Stable under normal conditions.

**7.3. Specific End Use(s):** For research use only.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control Parameters:**

**8.1.1.Occupational Exposure Limits:**

Ethanol (64-17-5)		
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

**8.2. Exposure Controls:**

**8.2.1.Appropriate Engineering Controls:**

Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. Ensure adequate ventilation. A washing facility/water for eye and skin cleaning purposes should be present.

#### 8.2.2. Personal Protective Equipment:

- 8.2.2.1. **Eye Protection:** Tightly fitting safety glasses with side shields.
- 8.2.2.2. **Skin Protection:** Protective clothing and gloves.
- 8.2.2.3. **Respiratory Protection:** Normally no personal respiratory protection is necessary.
- 8.2.2.4. **Thermal Hazards:** None known.

#### 8.3. Environmental Exposure Controls:

Avoid release to the environment.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1. Information on Basic Physical and Chemical Properties:

- 9.1.1. **Appearance**           Liquid  
                                      Color: colorless.
- 9.1.2. **Odor:** Alcohol
- 9.1.3. **Odor Threshold:** No data available.
- 9.1.4. **pH:** No data available.
- 9.1.5. **Melting Point/freezing Point:** No data available.
- 9.1.6. **Initial Boiling Point and Boiling Range:** No data available.
- 9.1.7. **Flash Point:** No data available.
- 9.1.8. **Evaporation Rate:** No data available.
- 9.1.9. **Flammability (Solid, Gas):** No data available.
- 9.1.10. **Upper/lower Flammability or Explosive Limits:**  
Upper explosion limit: No data available.  
Lower explosion limit: No data available.
- 9.1.11. **Vapor Pressure:** No data available.
- 9.1.12. **Vapor Density:** No data available.
- 9.1.13. **Density:** No data available.
- 9.1.14. **Relative Density:** No data available.
- 9.1.15. **Solubility(ies):** Water soluble.
- 9.1.16. **Partition Coefficient:** No data available.
- 9.1.17. **Auto-ignition Temperature:** No data available.
- 9.1.18. **Decomposition Temperature:** No data available.
- 9.1.19. **Viscosity:** No data available.
- 9.1.20. **Explosive Properties:** No data available.
- 9.1.21. **Oxidizing Properties:** No data available.

#### 9.2. Other Information: None.

### SECTION 10. STABILITY AND REACTIVITY

- 10.1. **Reactivity:** None anticipated.
- 10.2. **Chemical Stability:** Stable under recommended storage conditions.
- 10.3. **Possibility of Hazardous Reactions:** No hazardous reactions known if used for its intended purpose.
- 10.4. **Conditions to Avoid:** Avoid friction, sparks, or other means of ignition.
- 10.5. **Incompatible Materials:** No data available.
- 10.6. **Hazardous Decomposition Products:** No data available.

### SECTION 11. TOXICOLOGICAL INFORMATION

**11.1. Information on Toxicological Effects:**

**11.1.1. Acute Toxicity – Ingestion:** Ethanol, LD50, 3450 mg/kg (mouse)

**11.1.2. Acute Toxicity – Skin Contact:** Not classified.

**11.1.3. Acute Toxicity – Inhalation:** Ethanol, LD50, 20,000 ppm/10H (rat)

**11.1.4. Skin Corrosion/Irritation:** Not classified.

**11.1.5. Serious Eye Damage Irritation:**

Calculation method (Rabbit, OECD Test Guideline 405): Causes serious eye damage.

**11.1.6. Skin Sensitization Data:** Not classified.

**11.1.7. Respiratory Sensitization Data:** Not classified.

**11.1.8. Germ Cell Mutagenicity:** Not classified.

**11.1.9. Carcinogenicity**

IARC: Ethanol, Group I

NTP: Ethanol

OSHA: Ethanol

**11.1.10. Reproductive Toxicity:**

Reproductive toxicity - Human - female - Oral

Effects on Newborn: Apgar score (human only).

Effects on Newborn: Other neonatal measures or effects.

Effects on Newborn: Drug dependence.

**11.1.11. Lactation:** Not classified.

**11.1.12. Specific Target Organ Toxicity - Single Exposure:** Not classified.

**11.1.13. Specific Target Organ Toxicity - Repeated Exposure:** Not classified.

**11.1.14. Aspiration Hazard:** Not classified.

**11.2. Additional Information:** None.

**SECTION 12. ECOLOGICAL INFORMATION**

**12.1. Ecotoxicity (Aquatic and Terrestrial, Where Available):** Low toxicity to invertebrates, fish, and algae.

**12.2. Persistence and Degradation:** No data available.

**12.3. Bioaccumulative potential:** No data available.

**12.4. Mobility in Soil:** No data available.

**12.5. Other Adverse Effects:** No data available.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**13.1. Waste Treatment Methods:** Remove waste in accordance with local and/or national regulations. Offer surplus and non-recyclable solutions to a licensed disposal company.

**13.2.** To minimize exposure, refer to Section 8 (Exposure Controls/Personal Protection) of the SDS.

**SECTION 14. TRANSPORT INFORMATION**

**14.1. UN Number:** 1170

**14.2. UN Proper Shipping Name:** Ethanol

**14.3. Transport Hazard Class(es):** Class 3

**14.4. Packing Group, If Applicable:** Packing Group II

- 14.5. **Environmental Hazards:** Not classified as a marine pollutant.
- 14.6. **Guidance on Transport in Bulk (According to Annex II of MARPOL 73/783 and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code (IBC Code)):** None.
- 14.7. **Other Special Precautions Related to Transport:** None.

## SECTION 15. REGULATORY INFORMATION

### 15.1. Safety, Health and Environmental Regulations Specific for the Product in Question:

#### **SARA 302/313 Components**

SARA 302: This material is not subject to the reporting requirements of SARA Title III, Section 302.

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

#### **SARA 311/312 Hazards**

Fire hazard. Acute health hazard.

#### **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.

#### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product does not contain HAPs.

#### **WHMIS Hazard Class**

B2 Flammable liquid

D2B Toxic material causing other toxic effects

## SECTION 16. OTHER INFORMATION

16.1. **Revision Date:** 14 JAN 2022

16.2. **Reason for Revision:** Changed Section 2 Label Elements for eye damage/irritation hazard H318 (Cat. 1) to H319 (Cat. 2A) along with associated pictograms and precautionary statements.

16.3. **Additional Information:** None.

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