



PRINT DATE: 1/07/07

Version 1.2
REVISION DATE: 1/07/07

MATERIAL SAFETY DATA SHEET

MSDS 431-B

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1. Product and Company Identification

- 1.1 PRODUCT NAME:** TRAXX SL (UNIT B)
- 1.2 USE OF PRODUCT** Curing compound for Traxx SL Unit A.
- 1.3 SUPPLIER:** Equus Industries Ltd
Sheffield Street
Riverlands Industrial Estate
Blenheim, Marlborough, New Zealand
Telephone: +64 3 578 0214
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- 1.4 EMERGENCY CONTACT:** **National Poison Centre**
Telephone: 0800 764 766

Information about Safety Data Sheet: Telephone: +64 3 578 0214 8:00am – 6:00pm Mon - Fri

2. Hazards Identification

- 2.1 Classification:**
Dangerous Goods – classification according to New Zealand Dangerous Goods Code.
- 2.2 Risk/Safety Phrases:**
R20,36,37,38,42,43
S23,36,37,45

The full text of each R & S phrases are listed in Section 16.

3. Composition/Information on Ingredients

- 3.1 Chemical Characterization (Preparation):**
This product is a preparation.
- 3.2 Hazardous Ingredients:**

CAS NO.	COMPONENT	CONCENTRATION %	CLASSIFICATION
9016-87-9	4,4'-Diphenylmethane-diisocyanate	60-100%	R20/36/37/38/42/43



- 3.3** Only ingredients, additives and impurities which are classified and contribute to the classification of the product are included in this section.

4. First Aid Measures

- 4.1 After Inhalation:**
Remove person to fresh air. Allow person to rest. If symptoms persist, call a doctor.
- 4.2 After Skin Contact:**
Wash with a cleanser based on polyethylene glycol or with plenty of warm water and soap. If skin reactions occur, seek medical advice.
- 4.3 After Eye Contact:**
Rinse opened eye for minimum of 15 minutes with water, carefully and thoroughly. Seek medical attention.
- 4.4 After Ingestion:**
Do not induce vomiting. Seek medical attention immediately.
- 4.5 Advice to Doctor:**
Treat symptomatically.

5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:**
Carbon dioxide, foam, dry powder, and in case of larger fires, waterspray should be used.
- 5.2 Protective Equipment:**
Use self-contained breathing apparatus and wear full body protective clothing.
- 5.3 Specific Hazards:**
Exothermic reaction with amines and alcohols; reacts with water forming carbon dioxide. Polymerizes at about 260⁰C with evolution of carbon dioxide.
- 5.4 Combustion Products:**
Carbon monoxide, carbon dioxide, fumes and smoke. Can release nitrogen oxide, isocyanate vapour and traces of hydrogen cyanide.
- 5.5 Precautions in Connection with Fire:**
Collect contaminated fire fighting water separately. It must not enter drains. Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6. Accidental Release Measures

- 6.1 Preliminary Action and Precautions:**
- 6.1.1** Wear appropriate protective equipment to protect eyes, skin and to avoid inhalation of gases, vapours or aerosols.
- 6.1.2** Clear area of all unprotected personnel.



- 6.1.3 If safe to do so, shut off sources of leak.
- 6.1.4 Avoid spill/leak from entering sewers, storm water drains and open bodies of water by containing the spill/leak with sand or earth.
- 6.1.5 Recover free liquid, then apply absorbent, wet material (sand, earth, sawdust etc) to spill area. Leave for approx. one hour.
- 6.1.6 Place spent absorbent into suitable container, properly labelled.
- 6.1.7 Do not seal waste container. Evolution of carbon dioxide.
- 6.1.8 Keep damp in a safe ventilated area for several days.

7. Handling and Storage

7.1 Handling:

- 7.1.1 Ensure adequate ventilation or exhaust ventilation in the working area.
- 7.1.2 Avoid contact with eyes, skin and clothing.
- 7.1.3 Avoid inhaling vapours or mist.
- 7.1.4 Wash hands thoroughly after handling. Especially before eating, drinking, smoking or using the toilet.

7.2 Storage:

- 7.2.1 Store only in tightly closed containers.
- 7.2.2 Store away from amines and alcohols; reacts with water forming carbon dioxide, in closed containers risk of bursting owing to increase of pressure.
- 7.2.3 Keep from freezing.
- 7.2.4 Store in a cool, dry, well ventilated space.

8. Exposure Controls and Personal Protection Equipment

8.1 Exposure Limits:

Diphenylmethane-4,4'-diisocyanate Cas – 101-68-8 TLV/TWA(ACGIH):0.005ppm (0.02mg/m³)
STEL (ACGIH): 0.01ppm (0.07mg/m³)

8.2 Exposure Controls:

8.2.1 Exposure Controls in the Work Place:

Ensure adequate ventilation or exhaust ventilation in the working area. Exhaust ventilation necessary if the product is sprayed. In all area where isocyanate aerosols and/or vapour concentrations are produced in elevated concentrations, exhaust ventilation must be provided in such a way that the occupational exposure limit is not exceeded. The air should be drawn away from the personnel handling the product.



8.2.2 Personal Protection Equipment:

- Respiratory Protection - Required in insufficiently ventilated working areas and during spraying. An air fed mask, or for short periods of work, a combination of charcoal filter and particulate filter is recommended.
- Hand Protection – Wear protective gloves. Polychloroprene, nitrile rubber, butyl rubber, fluorinated rubber, polyvinyl chloride.
- Eye Protection – Wear chemical splash goggles and/or face shield
- Body Protection – Wear suitable protective work clothing

8.2.3 Additional Remarks:

In case of hypersensitivity of the respiratory tract (e.g. asthmatics and those who suffer from chronic bronchitis) it is inadvisable to work with the product. Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at end of work. Keep working clothes separate. Take off immediately all contaminated clothing.

9. Physical and Chemical Properties

9.1 General Information:

Physical State/Form	Liquid
Colour	Dark brown
Odour	Earthy, musty
Flash Point	>200°C
Vapour Pressure	23 hPa at 20°C
Water Solubility/Miscibility	Insoluble (Reacts forming CO ²)
Specific Gravity	1.24
Viscosity (25°C)	ca. 90 mPa*s
VOC	0 g/l

10. Stability and Reaction

10.1 General Information:

This material is stable when properly handled and stored.

10.2 Conditions to Avoid:

Polymerizes at about 260°C with evolution of carbon dioxide. Avoid temperatures below 0°C and avoid heat above + 50°C.

10.3 Material to Avoid:

Exothermic reaction with amines and alcohols; reacts with water forming carbon dioxide, in closed containers risk of bursting owing to increase of pressure. Also avoid acids and alkalis.

10.3 Hazardous Decomposition Products:

None expected when material properly handled and stored. For thermal decomposition see Section 5.



11. Toxicological Information

11.1 Acute toxicity:

LD/LC50 values that are relevant for classification:

Oral LD50: (Rat) >15000 mg/kg

Inhalation LC50: (Rat) \pm 490 mg as aerosol/m³, 4 hours of exposure.

Concentration of the saturated vapour of 4,4'-MDI at 25⁰C: 0.09 mg/m³

11.2 Primary irritant effect:

Inhalation:

Over exposure, especially when spraying coatings containing isocyanate without the necessary precautions, entails the risk of concentration-dependent irritating effect on the nose, throat and respiratory tract.

Skin Contact:

Prolonged contact with skin, may cause irritation and tanning effects.

Eye Contact:

Irritating effect on the eyes.

11.3 Chronic Effects:

Over exposure, without the necessary precautions entails the risk of concentration dependent irritating effects of the eyes, nose, throat and respiratory tract. Delayed appearance of the complaints and development of hypersensitivity (difficult breathing, coughing and asthma) are possible. Hypersensitive persons may suffer from these effects even at low isocyanate concentrations, including concentrations below the maximum exposure limit. Prolonged contact with the skin may cause tanning and irritant effects.

12. Ecological Information

12.1 General Information:

Prevent from entering sewers, drains and waterways. The product reacts with water at the interface forming carbon dioxide and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by water soluble solvents.

12.2 Ecotoxicity:

Data on Diphenylmethane-diisocyanate, isomers and homologues:

Acute fish toxicity: LC0 - >1000 mg/l

(Test species: Brachydanio rerio – duration of test: 96 h)

Toxicity for Daphnia: EC50 - >1000 mg/l (duration of test: 24 h)

Acute bacteria toxicity: EC50 - >100 mg/l

(Tested on activated sludge microorganism – duration of test: 3 h)

12.3 Persistence and degradability:

0% after 28 days (respirometer test)

12.4 Bioaccumulative Potential:

No data available.



13. Disposal Consideration

13.1 Material

After final product withdrawal, all residues must be removed from containers. Once the product residues adhering to the walls of the containers have been rendered harmless, any product and hazard labels must be invalidated. Dispose of according to regulation by incineration in a special waste incinerator or landfill at a permitted facility in accordance with local/national regulations.

14. Transport Information

14.1 Land Transport:

Road: Not regulated (not dangerous for transport)

Rail: Not regulated (not dangerous for transport)

14.2 **Sea Transport:** Not regulated (not dangerous for transport)

14.3 **Air Transport:** Not regulated (not dangerous for transport)

14.4 **Postal and Courier Service:** This product can be transported by courier.

Note: Keep away from foodstuffs, acids and alkalis. Keep Dry. Avoid temperatures below 0°C and avoid heat above $+50^{\circ}\text{C}$.

15. Regulatory Information

This product is hazardous.

16. Other Information

16.1 Full Text of R-Phrases Contained in Section 2:

R20 Harmful by inhalation
R36/37/38 Irritating to eyes, respiratory system and skin
R42/43 May cause sensitization by inhalation and skin contact

16.2 Full Text of S-Phrases Contained in Section 2:

S23 Do not breathe gas/fumes/vapour/spray
S36/37 Wear suitable protective clothing and gloves
S45 In case of accident or if you feel unwell, seek medical advice immediately.

16.3 The information contained in this Data Sheet relates only to the specific material identified. Equus Industries Ltd believes the information to be accurate and reliable as at the date of this Data Sheet. No Warranty, Guarantee or representation is expressed or implied by the Company as to the absolute correctness or completeness of any representation contained in this Data and assumes no legal responsibility in connection therewith. It can not be assumed that all acceptable safety measures are contained in this Data Sheet, or that additional measures may not be required under particular or exceptional circumstances or conditions.