



Material Safety Data Sheet

1. Identification of the substance/mixture and supplier

Product Name: **Duracoat ZK Hardener**

Recommended use: Two pack polyurethane coating.

Supplier: Uroxsys Ltd
Street Address: 17 Trugood Drive, East Tamaki, Auckland
Telephone Number: +64 9 2740808
Facsimile: +64 9 2740500
Emergency Telephone: After hours phone 0800 867666 (or 09 3034580), quote reference: Uroxsys Helpline
ERMA Approval: HSR002662

2. Hazards identification

Classified as hazardous according to criteria in the HS (Minimum Degrees of Hazard) Regulations 2001
Classified as Dangerous Goods by NZS 5433:1999 Transport of Dangerous Goods on Land.

Subclass 3.1 Category B (high hazard) - Flammable liquid
Subclass 6.1 Category D - Substances which are acutely toxic.
Subclass 6.3 Category A - Substances that are irritating to the skin.
Subclass 6.4 Category A - Substances that are irritating to the eye
Subclass 6.5 Category A - Substances that are respiratory sensitisers

Risk phrases: R11 Highly Flammable
R36 Irritating to eyes
R65 Harmful: May cause lung damage if swallowed

Safety Phrases S16 Keep away from sources of ignition - No smoking
S24/25 Avoid contact with skin and eyes
S28 After contact with skin, wash immediately with plenty of soap and water.
S29 Do not empty into drains
S38 In case of insufficient ventilation, wear suitable respiratory equipment.

3. Composition/information on hazardous ingredients

Isocyanate polymer	28182-81-2	30-60%	
Toluene	108-88-3	30-60%	R11,R20
Methyl ethyl ketone	78-93-3	10-30%	R11,R66,R67,R36/37
Aromatic hydrocarbon solvent	64742-95-6	<5%	R65
n-butyl acetate	123-86-4	<5%	R10,R66,R67
Hexamethylene-1,6- diisocyanate	822-06-0	<0.07%	R23,R36/37/38,R42/43

4. First-aid measures

If poisoning occurs, contact a doctor or Poisons Information Centre Phone 0800 764 766.

Ingestion: Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Seek immediate medical assistance. Begin artificial respiration if breathing has stopped. Use mouth to nose rather than mouth to mouth.

Inhalation: Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give

oxygen through a face mask. Apply artificial respiration if patient is not breathing. Get to a hospital or doctor quickly.

Skin Contact: If skin contact occurs, immediately remove contaminated clothing and wash skin thoroughly. If irritation occurs seek medical advice.

Eye Contact: If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

Notes to physician:

Dermatitis may result from prolonged or repeated exposure. Aspiration into the lungs may cause chemical pneumonitis. Causes central nervous system depression. Severe exposure may cause blurred vision, tremors, shallow and rapid breathing, delirium and unconsciousness.

5. Fire-fighting measures

Hazards from combustion: On burning may emit toxic fumes including those of carbon oxides, nitrogen oxides, isocyanate vapours and hydrogen cyanide.

Fire-fighting advice: Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion. Highly Flammable liquid. May form flammable vapour mixtures with air. Avoid all ignition sources. Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire. Keep containers cool with water spray.

Suitable Extinguishing Media: Foam, dry agent (carbon dioxide, dry chemical powder).

Hazchem Code: 3[Y]E

6. Accidental release measures

Emergency procedures:

If contamination of sewers or waterways has occurred advise local emergency services.

Methods for containment & clean up:

Shut off all possible sources of ignition. Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect in properly labeled containers.

7. Handling and storage

Handling advice:

Avoid skin and eye contact and breathing in vapour. May form flammable vapour mixtures with air. All potential sources of ignition must be eliminated both in and near the work area. Do NOT smoke. Flameproof equipment is necessary in all areas where this chemical is being used. Nearby equipment must be earthed. Vapour may travel a considerable distance to a source of ignition and flash back.

Storage advice:

Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from sources of heat or ignition. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

8. Exposure controls/personal protection

Occupational Exposure Limits:

No value assigned for this specific material by the New Zealand Occupational Safety and Health Service (OSH). However, Workplace Exposure Standard(s) for constituent(s):

Isocyanates, all (as-NCO): WES-TWA 0.02 mg/m³; WES-STEL 0.07 mg/m³, sen, NZ.

Toluene: TLV/TWA 50 ppm, 188 mg/m³ (skin)

Methyl ethyl ketone TLV/TWA 150 ppm (445 mg/m³), STEL 300 ppm (890 mg/m³) (bio)

As published by the New Zealand Occupational Safety and Health Service (OSH).

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

WES - STEL (Workplace Exposure Standard - Short Term Exposure Limits) - The 15 minute average exposure standard. Applies to any 15 minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both short-term and eight hour, time-weighted average exposures should be determined.

'Sen' Notice – sensitiser. The substance can cause a specific immune response in some people. An affected individual may subsequently react to exposure to minute levels of that substance.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Engineering Control Measures:

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Exposure Standards. Keep containers closed when not in use. Vapour heavier than air - prevent concentration in hollows or sumps. DO NOT enter confined spaces where vapour may have collected.

Personal Protective Equipment:

Avoid breathing the vapour or spray mist. Wear overalls, chemical goggles and impervious gloves. Use with adequate ventilation. If spraying or there is an inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Avoid breathing dust when sanding, use a dust mask. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. Physical and chemical properties

Physical state:	Liquid
Colour:	Pale yellow
Solubility:	Negligible
Specific Gravity:	0.93
Flash Point (°C):	-7°C
Flammability Limits (%):	1.8-11.5
Boiling Point/Range (°C):	79°C

10. Stability and reactivity

Stability: Stable under normal conditions.

Conditions to avoid: Avoid contact with foodstuffs. Avoid exposure to heat, sources of ignition and open flame. Reacts with moisture

Incompatible materials: Incompatible with oxidising agents

11. Toxicological information

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion: Aspiration into the lungs may cause chemical pneumonitis which can be fatal.

Eye contact: An eye irritant.

Skin contact: Contact with skin may result in irritation.

Inhalation: Harmful by inhalation. Narcotic at high vapour concentrations. May irritate the respiratory tract. May cause headache, dizziness, nausea and narcosis.

Long Term Effects:

For isocyanate polymer, over exposure, especially during spraying operations without the necessary precautions, entails the risk of concentration-dependent irritating effects on eyes, nose, throat and respiratory tract. Delayed appearance of the complaints and development of hyper-sensitivity (difficult breathing, coughing, asthma) are possible. Hypersensitive persons may suffer from these effects even at low isocyanate concentrations. In case of longer contact with skin, tanning and irritating effects are possible. Due to presence of solvents, prolonged or repeated overexposure to vapour may result in damage to nasal tissues and the upper respiratory tract.

Toxicological Data:

No LD50 data available for the product. The toxicity of the product may be attributed to the solvents it contains.

Additive effects may occur with mixtures of solvents. Similar effects can occur where the consumption of alcohol is also involved. However, for constituent toluene and MEK:

Oral LD50 (rat): >2000 mg/kg, Dermal LD50 (rat): >2000 mg/kg, Inhalation LC50 (rat): >5mg/l

12. Ecotoxicological information

Avoid contaminating waterways.

13. Disposal considerations

Refer to Waste Management Authority. Advise flammable nature. Dispose of material through a licensed waste contractor. Normally suitable for incineration by an approved agent.

14. Transport information

Road and Rail Transport

Classified as Dangerous Goods by NZS 5433:1999 Transport of Dangerous Goods on Land.

UN No: 1263

Class-primary 3 Flammable Liquid

Packing Group: II

Proper Shipping Name: PAINT RELATED MATERIAL

Hazchem Code: 3[Y]E

Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

UN No: 1263

Class-primary: 3.2 Flammable Liquid

Packing Group: II

Proper Shipping Name: PAINT RELATED MATERIAL

Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA)
Dangerous Goods Regulations for transport by air.
UN No: 1263
Class-primary: 3 Flammable Liquid
Packing Group: II
Proper Shipping Name: PAINT RELATED MATERIAL

15. Regulatory information

Classification: This material is hazardous according to the criteria in the HS (Minimum Degrees of Hazard) Regulations 2001.

Subclass 3.1 Category B (high hazard) - Flammable liquid
Subclass 6.1 Category D - Substances which are acutely toxic.
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Subclass 6.5 Category A - Substances that are respiratory sensitisers

16. Other information

This MSDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Uroxsys Limited cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact Uroxsys Limited at the contact details on page 1.

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