

Safety Data Sheet (SDS)
ZeraTuf W-104

SECTION 1: PRODUCT INFORMATION

PRODUCT INFORMATION

Product Identifier: **ZeraTuf W-104**

Application and Use: Water based two-component acrylic urethane coating (second component is optional)

Product Description: Clear aliphatic urethane coating. It can be applied by brush, roller, or spraying

MANUFACTURE (CANADIAN SUPPLIER IDENTIFIER):

Zeraus Products Inc.
250 Rayette Road, Unit 18
Vaughan, Ontario L4K 2G6
Tel: 905-761-9920

EMERGENCY TELEPHONE NUMBERS

Business: (905) 761-9920

24 Hours: (416) 574-5154

SECTION 2: HAZARD IDENTIFICATION

A. GHS Classification

- **Acute toxicity (oral): Category 4**
- **Skin corrosion/irritation: Category 2**
- **Skin sensitization: Category 1**
- **Chronic aquatic toxicity: Category 2**

B. GHS Label Elements

- o **Hazard Symbols:**



- o **Signal Word: **Warning****

- o **Hazard Statements:**

- H302 Harmful if swallowed
- H315 Causes skin irritation
- H317 May cause an allergic skin reaction

- H411 Toxic to aquatic life with long lasting effects

- o **Precautionary Statements:**

- 1) **Prevention:**

- P261 Avoid breathing dust/fume/gas/mist/vapours/spray
- P264 Wash hands thoroughly after handling
- P272 Contaminated work clothing should not be allowed out of the workplace
- P280 Wear protective gloves/protective clothing/eye protective/face protection

- 2) **Response:**

- P332 + P313 If skin irritation occurs: Get medical advice/attention
- P333 + P313 If skin irritation or a rash occurs: Get medical advice/attention
- P362 Take off contaminated clothing and wash before reuse

- 3) **Storage:**

- P403 + P233 Store in a well ventilated place. Keep container tightly closed

- 4) **Disposal:**

- P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

- 5) In case of Fire:

- Notify your local fire station and inform the location of the fire and characteristics hazard.
- Wear appropriate protective equipment

- 6) First Aid

- P301 + P312: IF Swallowed: Call a POISON CENTRE or doctor/physician if you feel unwell.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

- C. Other hazard which do not result in classification: (NFPA Classification)**

- o **NFPA grade (0~4 level)**

- **Health: 2 Flammability: 1, Reactivity : 0**

WHMIS 1988 Classification (Canada):

Class D, Division 2, Subdivision B: irritant

TRANSPORTATION OF DANGEROUS GOODS INFORMATION:

Not Regulated

Packing Group: PG III

SECTION 3: COMPOSITION/INFORMATION OF INGREDIENTS

Ingredients	CAS#	%(weight)
Methyl-2-Pyrrolidinone	872-50-4	4-7
Ethanamine, n, n-diethyl-	121-44-8	0-1

SECTION 4: FIRST-AID MEASURES

A. Eye contact:

- Do not rub your eyes.
- Flush eyes immediately with large amounts of running water for at least 15 minutes while holding eyelids open until irritation subsides. Do not attempt to neutralize with chemical agents. Obtain medical attention immediately.
-

B. Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Laundering enough contaminated clothing before reuse.
- Go to the hospital immediately if symptoms (flare, irritate) occur.
- Wash thoroughly after handling.
- Wash immediately with plenty of soap and water. Remove and clean all contaminated clothing and launder before reuse.

C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- In the case of overexposure, remove to fresh air. Get medical attention if the victim is in respiratory distress.

D. Ingestion contact

- About whether I should induce vomiting Take the advice of a doctor
- Rinse your mouth with water immediately.
- If swallowed, drink two glasses of water. Do not induce vomiting. The material is corrosive. Do not give anything to mouth to an unconscious person. Get prompt medical attention.

E. Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

F. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

SECTION 5: FIREFIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Avoid use of water jet for extinguishing

B. Specific hazards arising from the chemical

- Not available

C. Special protective actions for fire-fighters

- Notify your local firestation and inform the location of the fire and characteristics hazard.
- Using a unattended and water devices in case of large fire and leave alone to burn if you do not imperative.
- Avoid inhalation of materials or combustion by-products.
- Do not access if the tank on fire.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Keep containers cool with water spray.
- Vapour or gas is burned at distant ignition sources can be spread quickly.

Flashpoint and Method: 31.7 C/ 89 F (T.C.C.)

Auto ignition Temperature: Not applicable

Flammable Limits: Not Available

GENERAL HAZARDS: Combustible liquid; may release vapours that form combustible mixtures at or above the flash point. Toxic gases will form upon combustion.

FIRE FIGHTING: Wear NIOSH-approved self-contained breathing apparatus with independent air supply. Wear complete body protective butyl rubber clothing. Personnel in vicinity and downwind should be evacuated.

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide, and carbon monoxide, various hydrocarbons, phenol.

SECTION 6: ACCIDENTAL RELEASE MEASURES

A. Personal Precautions, protective equipment and emergency procedures

- Must work against the wind, let the upwind people to evacuate
- Move container to safe area from the leak area.
- Remove all sources of ignition.
- Do not direct water at spill or source of leak
- Avoid skin contact and inhalation.

B. Environmental precautions.

- Prevent runoff and contact with waterways, drains or sewers
- If large amounts have been spilled, inform the relevant authorities.

C. Methods and materials for containment and cleaning up

- Large spill: stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent
- Dike for later disposal.
- Prevent the influx to waterways, sewers, basements or confined spaces.

PROCEDURE IN CASE OF LEAKS:

Prevent spills from entering sewers, watercourses or low areas. Absorb with sand or other absorbent material. Residue may be removed with hot water and detergent. All precautions should be taken when cleaning the spill with solvent.

ENVIRONMENTAL PRECAUTIONS: Avoid discharge to sewers or waterways. Marine Pollutant (Very toxic to aquatic organisms)

SPILL CONTROL AND DISPOSAL: Dispose of sand and rinse water according to municipal, provincial or federal laws for disposal of chemicals.

SECTION 7: HANDLING AND STORAGE

A. Precautions for safe handling

- Wash thoroughly after handling
- Avoid direct physical contact
- Avoid contact with incompatible materials.
- Refer to Engineering controls and personal protective equipment.
- Do not inhale the steam prolonged or repeated.

B. Conditions for safe storage, including any incompatibilities

- Do not use damaged containers
- Do not apply direct heat
- Save applicable laws and regulations.
- Avoid direct sunlight
- Keep in the original container.
- Collected them in sealed container.
- Do not eat, drink or smoke when using this product.
- Store away from water and sewer.

HANDLING STORAGE AND SHIPPING: Keep container closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials. Do not handle or store near an open flame, sources of heat, or sources of ignition. Protect material from direct sunlight. This product will accumulate static charges which may cause an incendiary electrical discharge. Use proper grounding procedures. Empty product containers may contain product residue. **DO NOT REUSE.**

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

- **OSHA PEL**
 - Not available
- **ACGIH TLV**
 - Not available

B. Engineering controls

- A system of local and/or general exhaust is recommended to keep employee exposure above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

C. Personal protective equipment

- **Respiratory protection**
 - Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
 - Respiratory protection is ranked in order from minimum to maximum.
 - Consider warning properties before use.
 - Any chemical cartridge respirator with organic vapour cartridge(s).
 - Any chemical cartridge respirator with a full facepiece and an organic vapour cartridge(s).
 - Any air-purifying respirator with a full facepiece and an organic vapour canister.
 - For unknown Concentration or Immediately Dangerous to Life or Health: Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.
- **Eye protection**
 - Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
 - Provide an emergency eye wash station and quick drench shower in the immediate work area.
- **Hand protection**
 - Wear appropriate glove.
- **Skin protection**
 - Wear appropriate clothing.
- **Others**
 - Not available

PERSONAL PROTECTION: The selection of personal protective equipment varies depending upon conditions of

use. When handling product wear long sleeves, chemical resistant gloves and safety glasses with side shields. Where splashing during mixing may occur wear full face shield. Where concentrations in air may exceed the occupational exposure limits and where engineering work practices or other means of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation. The respirators may not be necessary for handling the materials in outdoor environment. Eye wash station (sink) or shower facility near the job is recommended in case of emergency.

Effect of Overexposure:

INHALATION: Do not heat the material. Vapours or mist generated from heating the material or as from exposure in poorly ventilated areas are irritating and cause nasal discharge. Coughing and discomfort in nose and throat. Prolonged or repeated overexposure may result in lung damage.

EYES: Cause irritation, experienced as pain, with excess blinking and tear production, and seen as extreme redness and swelling of the eye and chemical burns of the eye.

SKIN: Causes severe skin irritation with pain, excess redness and swelling with chemical burns. It may cause skin sensitization. Other than the potential skin irritation, effects noted above acute (short term) adverse effects are not expected from brief skin contact.

INGESTION: Acute (brief exposure): Low toxicity causes irritation. **Chronic (prolonged exposure):** causes burning of mouth, throat, and stomach with abdominal and chest pain, nausea, vomiting, diarrhea, thirst and weakness.

INGESTION: CHRONIC: Refer to acute ingestion.

Toxic effects or reproduction: No
Teratogenicity: No
Mutagenicity: No
Carcinogenicity: No

Acute or chronic exposure should be avoided as it will increase the toxicological problems mentioned in this section and may aggravate respiratory problems. Repeated skin contact may cause a persistent irritation or dermatitis. Repeated inhalation may cause lung damage.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Specific Gravity: 1.0
Solubility in Water: Dispersible
Boiling Point: >100°C
Freezing/Melting Point: n/av
Viscosity: 100 cps 23°C (73°F)
Vapour Pressure: 18.52 mmHg @21 °C
Evaporation Rate: n/av
Vapour Density: n/av
Odour: Characteristic ammonia odour
Appearance: Clear Liquid

SECTION 10: STABILITY AND REACTIVITY

A. Chemical Stability and Reactivity

- This material is stable under recommended storage and handling conditions.

B. Possibility of hazardous reactions

- Hazardous Polymerization will not occur.

C. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid: Accumulation of electrostatic charges, Heating, Flames and hot surfaces.

D. Incompatible materials

- Not available

E. Hazardous decomposition products

- May emit flammable vapour if involved in fire.

GENERAL: This product is stable and hazardous polymerization will not occur under normal conditions.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID: Excessive heating. Avoid contact with strong acids and alkalis.

HAZARDOUS DECOMPOSITION: carbon monoxide, phenol

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity

Ingestion: No data is available on the product itself

Ingestion – Components:

- | | | |
|----------------------------|-------------------|--------------|
| - Methyl-2-Pyrrolidinone | LD50: 3,914 mg/kg | Species: Rat |
| - Ethanamine, n,n-diethyl- | LD50: 460 mg/kg | Species: Rat |

Inhalation: No data is available on the product itself

Inhalation – Components: N/A

Dermal: No data is available on the product itself

Dermal – Components: N/A

Sensitization:

May cause sensitization of susceptible persons by skin contact. Did not cause allergic skin reactions when tested in mice.

Skin Corrosion/Irritation:

Extremely corrosive and destructive to tissue

Serious eye damage/eye irritation:

May cause irreversible eye damage

Respiratory or skin sensitization:

N/A

Germ Cell Mutagenicity:

N/A

Carcinogenicity:

N/A

Reproductive toxicity:

N/A

SECTION 12: ECOLOGICAL INFORMATION

- **Aquatic toxicity:** no data available
- **Persistence and degradability:** no data available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

SECTION 14: TRANSPORTATION INFORMATION

Domestic/International Regulation

TDG

Not Regulated

IMDG

Proper Shipping name: Environmentally Hazardous substance, liquid, n.o.s. (Methyl-2-Pyrrolidinone)

Class or Division: 9

Packing group: III

ID Number: UN 3082

Label(s): 9

Marine Pollutant: Yes

IATA
Not Regulated

SECTION 15: REGULATORY INFORMATION

SECTION 16: OTHER INFORMATION

This SDS is prepared according to the Globally Harmonized System (GHS).
Issue Date: 2017-05-11



**Material Safety Data Sheet
ZeraLink XL**

PRODUCT INFORMATION

Manufacturer: Zeraus Products Inc.
250 Rayette Road, Unit 18
Vaughan, Ontario L4K 2G6

PRODUCT INFORMATION

Product Identifier: ZeraTuf W-XL

Application and Use: Water based two-component aliphatic polyurethane coating

Product Description: Waterborne polycarbodimide crosslinker

HAZARD RATING SYSTEM (USA):

Health: 1

Flammability: 0

Reactivity: 0

WHMIS Classification (Canada):

Class D, Division 2, Subdivision A

Class D, Division 2, Subdivision B

TRANSPORTATION OF DANGEROUS GOODS INFORMATION: Not Regulated

EMERGENCY TELEPHONE NUMBERS

Business: (905) 761-9920

24 Hours: (416) 574-5154

LABEL PRECAUTIONS

MILD EYE IRRITANT. REPRODUCTIVE TOXIN.

Keep container closed.

Wash thoroughly after handling

Avoid breathing vapours

Avoid contact with eyes, skin and clothing

Keep away from children

HAZARDOUS INGREDIENTS

Ingredients	CAS#	% (weight)	LD/50 Route/Species
Multifunctional polycarbodimide	NA	50-70%	NA
Diethyl glycol monoethyl ether	111-90-0	20-30%	LD50 5500 mg/kg (Rat-Oral)

PHYSICAL DATA

Physical State: Liquid
Specific Gravity: 1.0
Vapour Pressure: 18.52 mmHg @21C
Solubility in Water: Dispersible
Boiling Point: NA
Freezing/Melting Point: <0C
Viscosity: 20 CPS
Vapour Density (Air=1) : >1.0
Odour: Slight amine odour
Appearance: Clear liquid

POTENTIAL HEALTH EFFECTS

Effect of Overexposure:

INHALATION:

Harmful and irritant

EYE CONTACT: Eye irritant

SKIN CONTACT: Slightly irritant. Prolonged skin contact may cause allergic skin reaction

INGESTION: Moderate toxicity

Others: Suspected of damaging fertility or unborn child

FIRST AID MEASURES

INHALATION:

If affected, move to fresh air. Take a rest with the posture that is easy to breath. In case of have a headache and cough, pain in the throat, nausea, seek medical advice.

EYE CONTACT: Immediately flush with large amount of water for at least 15 minutes, lifting upper and lower lids occasionally. Get medical attention.

SKIN CONTACT: Take off immediately all polluted clothes. Wash exposed area with soap and large amount of water. In case of irritation to skin and develop a rash, seek medical advice. Wash hands thoroughly after handling.

INGESTION: Gargle with water and then take two glasses of water or milk to induce vomiting if you have a clear sensorium. Get immediate medical attention. In case of afflicted person is unconscious, don't give some drink

PREVENTIVE MEASURES

PERSONAL PROTECTION: Workmen should avoid all contamination of eyes and skin. Wear safety glasses with side shields and protective latex gloves. Where the possibility of the inhalation of mist exists workmen should wear the appropriate respirator.

ENGINEERING CONTROLS: Not necessary under normal conditions of use. If application is in an area with no ventilation some passive ventilation should be provided.

ACCIDENTAL RELEASE MEASURES

PROCEDURE IN CASE OF LEAKS:

Area of spill will be slippery. Use care to avoid falling. Do not flush product into storm sewers, sanitary sewers, or water courses. Soak up product with sand, earth or some other inert material. Dispose of in accordance with all federal, provincial and municipal regulations.

ENVIRONMENTAL PRECAUTIONS: The product is toxic to aquatic life in liquid form. Avoid discharge to sewers or waterways.

SPILL CONTROL AND DISPOSAL: Dispose of sand and rinse water according to municipal, provincial or federal laws for disposal of chemicals.

HANDLING AND STORAGE

HANDLING: Keep containers closed when not in use. Do not allow this product to freeze. Empty product containers may contain product residue. Do not reuse to store foodstuffs or drinking water under any conditions

STORAGE: Do not Freeze. Keep away from oxidizers. Product may partially freeze with extended exposure to cold temperatures. Product should be stored at temperature above 15 C.

FIRE AND EXPLOSION DATA

FLASH POINT: Non-Combustible

EXTINGUISHING MEDIA: Product does not burn. Aqueous solution is not flammable.

GENERAL HAZARDS: This product is non-combustible, but if temperatures are high enough it will boil until water is driven off then the remaining resin solids will burn. Toxic gases may be generated during fire.

FIRE FIGHTING: Use water to extinguish fire of polymer solids. A self contained breathing apparatus should be used for all indoor fires.

HAZARDOUS COMBUSTION PRODUCTS: No known unusual hazards in fire situation.

REACTIVITY DATA

GENERAL: This product is stable and hazardous polymerization will not occur.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID: Do not contaminate product with any acidic or basic compounds. Do not allow product to freeze.

HAZARDOUS DECOMPOSITION: None.

PREPARATION

Prepared By: Masroor Mohajerani, PhD
Zeraus Products Inc.
250 Rayette Road, Unit 18
Vaughan, Ontario L4K 2G6

December 2019

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, expressed or implied, with respect to such information, and we assume no liability resulting from its use. User should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Zeraus Products Inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Zeraus Products Inc. has been advised of the possibility of such damages.