

Material Safety Data Sheet

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Effective: August 8, 2012

Product Name: X-O2 - Part A
Product Type: Prepolymer Resin Solution
Chemical Name: Mixture **CAS-No.:** Mixture

Al's Liner

PO BOX 756 **Phone: (800) 999-6841**
PLAINFIELD, IN 46168 **Fax: (765) 653-7175**
IN CASE OF EMERGENCY CALL CHEMTREC AT 1-703-527-3887

SECTION 2. COMPOSITION/INFORMATION ON REGULATED INGREDIENTS

Chemical Name	CAS Number	Weight %	OSHA pel TWA	ACGIH TLV TWA	Ceiling	IDLH	Units
Stoddard Solvent	8052-41-3	14-18	500	100	N.E.	200,000	ppm
Dicyclohexylmethane-4-4' - diisocyanate (H ₁₂ MDI)	5124-30-1	1-5	N.E.	0.005	0.01	N.E.	ppm

SECTION 3. HAZARDS IDENTIFICATION

*****EMERGENCY OVERVIEW***:** Viscous Liquid. Overexposure may cause allergic skin reaction and possible sensitization. Vapor harmful, may cause respiratory, skin, and eye irritation with shortness of breath and chest tightness. Avoid direct skin contact and inhalation.

EFFECTS OF OVEREXPOSURE – EYE CONTACT: Liquid, mists or vapors are severely irritating and can cause pain, tearing, reddening, swelling, and blurred vision. If left untreated, corneal damage can occur, and injury is slow to heal. However, damage is usually reversible (See First Aid for treatment).

EFFECTS OF OVEREXPOSURE – SKIN CONTACT: Can cause irritation which may include the symptoms of reddening, swelling, rash, scaling, or blistering. Solvent component may cause defatting of skin.

EFFECTS OF OVEREXPOSURE – INHALATION: Can irritate the mucous membranes in the respiratory tract causing runny nose, sore throat, coughing, chest discomfort, shortness of breath, and reduced lung function. Prolonged inhalation may lead to dizziness/light-headedness, headache, nausea, central nervous system depression, liver damage, kidney damage, and loss of consciousness. Persons with a pre-existing, nonspecific bronchial hyperactivity can respond to concentrations below component's TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm, and pulmonary edema. These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g., fever, chills) has also been reported. These symptoms can be delayed up to several hours after exposure.

EFFECTS OF OVEREXPOSURE – INGESTION: Can result in irritation and corrosive action in the mouth, stomach tissue, and digestive tract. Symptoms can include sore throat, abdominal

pain, nausea, vomiting, diarrhea, intoxication, and convulsions.

EFFECTS OF OVEREXPOSURE – CHRONIC HAZARDS: As a result of previous repeated overexposures, or a single large dose, certain individuals may develop isocyanate sensitization which will cause them to react to a later exposure to isocyanate materials at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath, or asthmatic attack, could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are reports that one sensitized, an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. This increased lung sensitivity can persist for weeks and in severe cases, for several years. Chronic overexposure to isocyanate materials has also been reported to cause lung damage including decrease in lung function) which may be permanent. Sensitization can be either temporary or permanent. Chronic overexposure to solvents may cause liver damage, kidney damage, central nervous system effects.

PRIMARY ROUTE(S) OF ENTRY: INHALATION, SKIN CONTACT, SKIN ABSORPTION, EYE CONTACT, INGESTION

CARCINOGENICITY: Neither this product nor any of its components are listed by NTP or IARC, or regulated as a carcinogen by OSHA.

SECTION 4. FIREST AID MEASURES

EYE CONTACT: Immediately flush with plenty of fresh water for at least 15 minutes. Hold the eyelids open all of the time. Seek medical attention.

SKIN CONTACT: Remove contaminated clothing immediately. Wash affected areas thoroughly with soap, or tincture of green soap and water, for at least 15 minutes. Wash clothing thoroughly before reuse. For severe exposures, get under a safety shower after removing clothing, get medical attention, and consult a physician.

INHALATION: Remove affected persons to fresh air. If breathing is difficult, administer oxygen. Seek medical attention. Asthmatic type symptoms may develop and may be immediate or delayed up to several hours.

INGESTION: Immediately drink two glasses of water or milk. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

***NOTE TO PHYSICIAN:** EYES: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. SKIN: This compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. INGESTION: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound. RESPIRATORY: This compound is a suspect pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate materials.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: 105°F (40°C) T.C.C.
Auto ignition Temperature: Not determined

Lower explosive limit: 1.0
Upper explosive limit: 6.0

Extinguishing Media: Alcohol Foam, Carbon dioxide (CO₂), dry chemical or water spray (fog)

Unusual Fire/Explosion Hazards: None known

Special Firefighting Procedures: Wear self-contained breathing apparatus with full face piece operated in the positive pressure demand mode with fighting fires.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case materials is released or spilled: Contain any spills with dikes or absorbents to prevent migration into sewers, soil, or streams. Collect small spills with dry chemical absorbent. Large spills may be collected with pump and vacuum, and concluded with dry chemical absorbent. Contaminated soil may require excavation removal. Eliminate all ignition sources. Persons not wearing the proper protective equipment should be excluded from the area of the spill until cleanup has been completed. Safely stop spill at their source if possible. If runoff occurs, notify proper authorities that a spill has occurred.

SECTION 7. HANDLING AND STORAGE

Handling: Keep containers closed when not in use. Use proper handling precautions designated for a combustible substance. All label precautions must be observed when handling or transporting empty containers due to product residues. Neutralize residues with the appropriate substances for this materials. Do not smoke or use ignition sources where this product is stored or used.

Storage: Store away from heat, sparks, ignition sources, and open flame in accordance with applicable regulations. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Sufficient ventilation is pattern and volume should be provided in order to maintain air contaminant levels below recommended exposure limits.

Respiratory Protection: If working in conditions where a PEL is exceeded, use a chemical cartridge mask or air supply hood as required and/or approved by ANSI and OSHA. A NIOSH/MSHA approved supplied-air respirator is preferable. A cartridge respirator may be appropriate in certain circumstances where airborne monitoring demonstrates vapor levels below ten times the applicable exposure limits, and where organic solvents are present in the product to provide adequate warning properties. For emergencies, confined spaces or other conditions where exposure limits may be exceeded, an approved air-supplied respirator is required. Observe OSHA regulations (29CFR 1910.134) for respirator use.

Skin Protection: Wear chemically-impervious protective clothing, including gloves, body cover, head cover, and full-face shield (consult your safety equipment supplier). Minimize or eliminate exposed skin, cover exposed skin with impervious cream.

Eye Protection: For best protection, an air hood or respirator with a full-face shield is recommended. However, chemical splash goggles and certain other types of protective glasses are allowable within OSHA regulations.

Other Protective Equipment: To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Hygienic Practices: Wash thoroughly after handling. Wash again before eating, smoking, or using toilet facility. Do not smoke in any chemical handling or storage area. Food or beverages should not be consumed any where this product is handled or stored.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	>300°F (149°C)	Vapor Density:	Heavier than air
Appearance:	Clear	Odor Threshold:	N.D.
Physical State:	Liquid	Evaporation rate:	N.D.
Odor:	Hydrocarbon	Density:	Approx. 8.25 lbs/gal.
Solubility in H₂O:	Negligible	Specific Gravity:	0.95-1.02
Freeze Point:	<50°F (10°C)	pH:	N.D.
Volatile by Weight:	14-18%	Volatile by Volume:	18-22%
Vapor Pressure (Solvent Component):	>1.0mmHg @ 68°F (20°C)		

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid: Contact with incompatible materials. Temperatures above recommended maximum storage temperature.

Incompatibility: Water, amines, strong acids, strong bases, strong oxidizers, alcohols, ignition sources.

Hazardous Decomposition Products: By high heat and fire: carbon monoxide, carbon dioxide, oxides of nitrogen, traces of HCN. Reacts with water to form heat, CO₂, and insoluble ureas.

Hazardous Polymerization: May occur if in contact with moisture or other materials which react with isocyanate materials. Self-reaction may occur at temperatures over 350°F (176°C), or at lower temperatures, if sufficient time is involved.

Stability: Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Contains 1-5% Dicyclohexylmethane-4-4' – diisocyanate (H₁₂MDI). Following is information for pure H₁₂MDI:

ACUTE TOXICITY:

LD ₅₀	1,065 mg/kg (rat)
Dermal LD ₅₀	10,000 mg/kg (rabbit)
Inhalation LC ₅₀	434 mg/kg – 4 hr. (rat)
	295 mg/m ³ (28 ppm) – 4 hr. (male rat)
	307 mg/m ³ (29 ppm) – 4 hr. (female rat)
Inhalation LC ₅₀	200 mg/m ³ 200 mg/m ³ (19 ppm) (rat)

SECTION 12. ECOLOGICAL INFORMATION

No data available**SECTION 13. DISPOSAL CONSIDERATIONS**

Disposal Method: Disposal should be done in accordance with Federal (40CFR Part 261), state, and local environmental control regulations. If waste containing this product is determined to be hazardous, use licensed hazardous waste transporter and disposal facility. S

SECTION 14. TRANSPORTATION INFORMATION**U.S. DOT Classification**

Proper Shipping Name:	Combustible Liquid, NOS (Naphtha)
Hazard Class / Division:	N/A
UN Number:	NA1993
Packing Group:	III
Hazardous Substance:	Not applicable
Emergency Response Guide:	127
ICAO/IATA (air)	Refer to specific regulation.
IMO/IMDG:	Refer to specific regulation.

SECTION 15. REGULATORY INFORMATION**U.S. Regulations:**

OSHA Status: Classified as hazardous based on components.

TSCA Status: All components of this product are listed on or exempt from the TSCA Inventory.

U.S. EPA CERCLA Hazardous Substances (40 CFR 302): Not applicable

California Proposition 65: Not applicable

SARA Title III Section 302 Extremely Hazardous Substance: Not applicable

SARA Title III Section 313 Toxic Chemicals:
Dicyclohexylmethane-4-4' -diisocyanate (5124-30-1) 1-5%

Canadian Regulations:

WHMIS: Contains the following substance(s) subject to the reporting requirements of the Canada WHMIS system:

Dicyclohexylmethane-4-4' -diisocyanate (5124-30-1) 1-5%

DSL: All components of this product are on the Canadian Domestic Substances List (DSL) or are exempt.

National Inventories:

Australia AICS: Not determined

China IECS:	Not determined
Europe IECS:	Not determined
Japan ENCS:	Not determined
Korea KECl:	Not determined
Philippines PICCS:	Not determined

SECTION 16 - OTHER INFORMATION

HMIS RATINGS: Health: 2 Flammability: 2 Reactivity: 1 Protective Equipment: Section 8

Key: N.E. =Not Established N.A. =Not Applicable N.D. =Not Determined

NOTE: The data in this Material Safety Data Sheet relates only to the materials designated herein, and does not relate to use in combination with any other material, or in any process. The information herein is furnished free of charge, and is based upon technical data that Al's Liner believes to be reliable, and to the best of our knowledge, accurately reflects the properties and effects of the hazardous components. This product is intended for use by persons having technical skills, and at their own discretion and risks. Because conditions of use of this material are outside our control, we make no warranties, expressed or implied, and assume no liability in connection with any use of this material.

-END OF MSDS-