

AsahiKASEI
ASAHI KASEI CHEMICALS
MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : DURANATE E-402-90T
General Use : Polyurethane coatings
Product Description : Polyisocyanate
Manufacturer's Name : Asahi Kasei Chemicals Corporation
Address (Number, Street, City, State, and ZIP Code) :
Hibiya-Mitsui Bldg.,1-2,Yuraku-Cho 1-Chome, Chiyoda-Ku, Tokyo, 100, Japan
Telephone Number : +81-3-3507-2433(phone), +81-3-3507-2419(fax)
Emergency Telephone Number : +81-3-3507-2433 Asahi Kasei Chemicals Corporation
Performance Coating Materials Division

2. COMPOSITION, INFORMATION ON INGREDIENTS

Components	Wt%	Cas#	OSHA PEL (2003)	ACGIH TLV (2003)
2-Oxepanone polymer with 1,6-diisocyanatohexane and 2-ethyl-2-(hydroxymethyl) -1,3-propanediol	90	129757-76-2	Not Established	Not Established
Toluene	10	108-88-3	200ppm TWA	50ppm TWA
Hexamethylene diisocyanate	<0.7	882-06-0	Not Established	0.005ppm

3. HAZARDS IDENTIFICATION

Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above flash point.
Vapors cause irritation of eyes, nose and throat. Inhalation may cause toxic symptoms.

4. FIRST AID MEASURES

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- Inhalation : Move the victim to the area under fresh air. If not breathing, give artificial respiration. Call for prompt medical attention as soon as possible.
- Skin contact : Remove contaminated clothing and shoes. Flush affected areas with large amount of water and soap. Get medical aid if irritation develops or persists.
- Eye contact : Immediately flush eyes with plenty of running water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention.
- Ingestion : Give 2-4 cupfuls of water or milk. Get medical aid immediately. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flash Point (Method Used) 32.5°C (Seta Closed-cup)

Flammable Limits Not Applicable

Extinguishing Media

For small fires, use dry chemical, carbon dioxide, water spray.

For large fires, use water spray.

Special Fire Precaution

Use water spray to keep fire exposed containers cool.

During a fire, irritating and highly toxic gases such as carbon monoxide, oxides of nitrogen, isocyanate vapor and traces of hydrogen cyanide may be generated by thermal decomposition or combustion.

Protection of Firefighters

Wear full protective clothing and self-contained breathing apparatus.

Fire and Explosion Hazard Data of Toluene.

Flammable limits [Toluene] : LEL 1.3 Vol% , UEL 7.0 Vol%

6. ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Remove all sources of ignition. Evacuate unnecessary and unprotected personnel. Wear appropriate personnel protective equipment as specified in Section 8. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert materials. Do not flush to sewer.

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Handling	Workshops should be well ventilated. Avoid contact with skin and eyes. Avoid injection and inhalation. Avoid contact with heat, sparks and flame. Use proper bonding and grounding procedures to reduce potential for static discharge.
Storage	Use spark-proof tools and explosion-proof equipment. Keep container tightly closed. Store in a cool, dry, well-ventilated area. Keep away from sources of ignition. Avoid storage at low temperature, or a milky turbidity might appear or milky solid might precipitate in the product. However, even in such a case, it will get back clear by heating. Heat by water bath etc. and keep away from fire.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentration below the permissible exposure limits.

Personal Protective Equipment:

- | | |
|----------------|--|
| Eyes | : Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eyes and face protection regulations in 29 CFR 1910.133 or European Standard EN166. |
| Skin(Clothing) | : Wear appropriate protective clothing, gloves to prevent skin exposure. |
| Respirators | : Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149 approved respirator when necessary. |

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Colorless to light yellow
Odor	Sweetish odor - pleasant odor
Boiling Point	(Toluene : 110°C)
Vapor Pressure (mmHg)	(Toluene : 3700 (25°C))
Vapor Density (Air=1)	(Toluene : 3.1)
Specific Gravity (H ₂ O=1)	1.088 (20°C)
Melting Point	Not Applicable
Evaporation Rate (Butyl acetate=1)	Not Applicable
Solubility in Water	Insoluble

10. STABILITY AND REACTIVITY

Hazardous decomposition products : No hazardous decomposition products when stored and handled correctly.

Hazardous reactions: Exothermic reaction with amines and alcohols; reacts slowly with Water forming CO₂, in closed containers risk of bursting owing to Increase of pressure.

11. TOXICOLOGICAL INFORMATION

Health Hazards of 2-Oxepanone polymer with 1,6-diisocyanatohexane and 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (Acute and Chronic)

Acute eye irritation	: Minimal irritant (rabbit)
Acute dermal irritation	: Mild irritant (rabbit)
Acute oral toxicity	: LD ₅₀ (rat) > 2000mg/kg
Ames test	: No indication of mutagenic effects

Medical Conditions : Asthma and other respiratory disorders, skin allergies, eczema

Health Hazards of Toluene

Acute oral toxicity	: LD ₅₀ (rat) = 5000mg/kg
Eye irritation	: Moderate irritant
Skin irritation	: Mild irritant
Inhalation	: LC ₅₀ (mouse) = 5300ppm/8hr

(to be continued)

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Health Hazards of Hexamethylene diisocyanate

Acute eye irritation	: Severe irritant
Acute dermal irritation	: Severe irritant
Acute oral toxicity	: LD ₅₀ (rat) = 1050mg/kg
Inhalation	: LC ₅₀ (rat) = 310~350mg/m ³ /4hr

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method : Incineration and burying. In addition, it should be disposed according to federal, state and local rule.

14. TRANSPORT INFORMATION

IMDG

UN NUMBER: 1993

IMO CLASS: 3

PACKAGING GROUP: III

MARINE POLLUTANT: NO

PROPER SHIPPING NAME: Flammable Liquid, n. o. s.

15. REGULATORY INFORMATION:

Ensure this material is compliance with requirement and local regulations.

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16. OTHER INFORMATION

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***LOCAL CONTACT**