



Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

COREACTANT 9H1H

Revision date: 05/16/2006

Supplier

ROHM AND HAAS CHEMICALS LLC
A Subsidiary of The Dow Chemical Company
100 INDEPENDENCE MALL WEST
PHILADELPHIA, PA 19106-2399 United States

For non-emergency information contact: 215-592-3000

Emergency telephone number

1 800 424 9300

Local Emergency telephone number

989-636-4400

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Polymeric isocyanate	Trade Secret	50.0 - 52.0%
Toluene diisocyanate	26471-62-5	<= 0.5%
Ethyl acetate	141-78-6	48.0 - 50.0%

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance

Form liquid clear

Colour yellow

Odour Solvent odor

Hazard Summary**WARNING!**

Flammable.

The product causes irritation of eyes, skin and mucous membranes.
severe irritation of the mouth, throat, and digestive tract

May cause sensitization by inhalation and skin contact.

shortness of breath

Bronchial constriction may develop after extensive exposure to
isocyanates, even in individuals who have not been shown to be
previously sensitized.

Causes liver and kidney effects.

central nervous system (CNS) effects

Potential Health Effects**Primary Routes of Entry:**

Inhalation

Skin contact

Eye contact

Eyes: The solvent(s) in this material can cause the following:

irritation

conjunctivitis

pain

temporary corneal injury

tearing

Skin: Material can cause the following:

Moderate irritation.

reddening

- skin sensitization even at low concentrations in susceptible individuals Prolonged or repeated
overexposure to the solvent(s) in this material can cause the following:

defatting and drying of the skin which can lead to irritation and dermatitis

Ingestion: Material can cause the following:

severe irritation of the mouth, throat, and digestive tract

nausea

narcosis

headache

Inhalation: Inhalation of solvent vapor or mist can cause the following:

irritation of nose, throat, and lungs

headache

nausea

vomiting

central nervous system (CNS) effects

- respiratory sensitization (isocyanates)

tightness in the chest

shortness of breath

lung damage

liver damage

kidney damage

Chronic Exposure: Prolonged overexposure to ethyl acetate can cause the following: - kidney
damage - liver damage - heart damage - lung damage - blood effects - nervous system effectsLong term exposure to diisocyanates may cause lung damage, including reduced lung function, which
may be permanent.**Toluene diisocyanate**

US CA CRT

Carcinogenic.

Toluene diisocyanate

NTP CARC

Anticipated carcinogen.

Toluene diisocyanate	IARC	Possible carcinogen.
Toluene diisocyanate	ACGIH	Sensitiser.
Toluene diisocyanate	ACGIH	Not classifiable as a human carcinogen.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. Give artificial respiration if breathing has stopped. Get prompt medical attention. In case of shortness of breath, give oxygen.

Skin contact: Remove contaminated clothing. Wash off with soap and plenty of water. Wash contaminated clothing before re-use. Do not take clothing home to be laundered. Consult a physician.

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Ingestion: Drink 1 or 2 glasses of water. Consult a physician. If vomiting occurs spontaneously, keep airway clear. Never give anything by mouth to an unconscious person.

Notes to physician

Bronchial constriction may develop after extensive exposure to isocyanates, even in individuals who have not been shown to be previously sensitized. MATERIAL IS SEVERELY IRRITATING. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

Flash point -1 °C (30.20 °F) Abel Closed Cup

Lower explosion limit 2.10 %(V)Ethyl acetate

Upper explosion limit 11.50 %(V)Ethyl acetate

Suitable extinguishing media: Use the following extinguishing media when fighting fires involving this material:
carbon dioxide (CO₂)
dry powder
foam
Water in very large quantities.

Specific hazards during fire fighting: Vapors can travel to a source of ignition and flash back. Heated material can form flammable or explosive vapors with air. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat. During a fire, irritating and highly toxic gases and/or fumes may be generated during combustion or decomposition. DO NOT permit water to enter containers. Closed containers may explode when heated or contents contaminated with water.

Special protective equipment for fire-fighters: In the event of fire, wear self-contained breathing apparatus.

Further information: EXPLOSION HAZARD. Fight advanced fires from a protected location.

Cool closed containers exposed to fire with water spray.

DO NOT permit water to enter containers.

Remain upwind.

Avoid breathing smoke.

Contain run-off.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations.

MATERIAL IS A POTENTIAL SENSITIZER.

If exposed to material during clean-up operations, IMMEDIATELY remove all contaminated clothing and wash exposed skin areas with soap and water. See SECTION 4, First Aid Measures, for further information.

Wash contaminated clothing before re-use.

Do not take clothing home to be laundered.

Environmental precautions

WARNING: KEEP SPILLS AND CLEANING RUNOFFS OUT OF MUNICIPAL SEWERS AND OPEN BODIES OF WATER.

Methods for cleaning up

Eliminate all ignition sources.

Evacuate personnel to safe areas.

Ventilate the area.

Floor may be slippery; use care to avoid falling.

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Sweep up or vacuum up spillage and collect in suitable container for disposal.

No sparking tools should be used.

Avoid all contact.

Avoid breathing vapor.

NOTE: Spills on porous surfaces can contaminate groundwater.

7. HANDLING AND STORAGE

Handling

Vapors can be evolved when material is heated during processing operations. See SECTION 8, Exposure Controls/Personal Protection, for types of ventilation required. Use non-sparking tools and grounding cables when transferring. This material is a potential skin sensitizer. See SECTION 8, Exposure Controls/Personal Protection, prior to handling. Wash after handling and shower at end of work period.

Further information on storage conditions: Residual vapors in empty containers may explode on ignition. DO NOT cut, drill, grind or weld on or near container.

Storage

Storage conditions: Avoid temperature extremes during storage; ambient temperature preferred.

Store away from excessive heat (e.g. steam pipes, radiators), from sources of ignition and from reactive materials. Material can burn; limit indoor storage to approved areas equipped with automatic sprinklers. Store out of direct sunlight in a cool place. Keep containers tightly closed in a cool, well-ventilated place. Avoid all ignition sources. Ground all metal containers during storage and handling. Keep material dry. Moisture may affect product quality.

Further information:

CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all MSDS and label warnings even after container is emptied.

Improper disposal or re-use of this container may be dangerous and illegal. Refer to applicable local, state and federal regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit(s)

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value
Toluene diisocyanate	Rohm and Haas	TWA	0.036 mg/m3
	Rohm and Haas	STEL	0.14 mg/m3
	ACGIH	TWA	0.005 ppm

ACGIH		STEL	0.02 ppm
Component	Regulation	Type of listing	Value
Ethyl acetate	ACGIH	TWA	1,440 mg/m3 400 ppm
	OSHA_TRANS	PEL	1,400 mg/m3 400 ppm
	Z1A	TWA	1,400 mg/m3 400 ppm
	Rohm and Haas	TWA	150 ppm
	Rohm and Haas	STEL	300 ppm

Eye protection: Use chemical splash goggles (ANSI Z87.1 or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.

Hand protection: Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation. (Gloves of other chemically resistant materials may not provide adequate protection): VITON Synthetic Rubber (registered Trademark of Dupont Dow Elastomers) Polyvinyl alcohol 4H Glove (Trademark of Safety 4 A/S of Denmark) Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water.

Skin and body protection: Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact. Where splashing is possible, full chemically resistant protective clothing (e.g. acid suit) and boots are required.

Respiratory protection: A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Above the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Engineering measures: Use explosion-proof local exhaust ventilation with a minimum capture velocity of 100 ft/min (0.5 m/sec) at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid clear
Colour	yellow
Odour	Solvent odor
Boiling point/range	73 °C (164.88 °F)
Melting point/range	-31.97 °C (-25.55 °F)
Flash point	-1 °C (30.20 °F) Abel Closed Cup
Lower explosion limit	2.10 %(V)Ethyl acetate
Upper explosion limit	11.50 %(V)Ethyl acetate
Vapour pressure	265.0 mmHg at 50 °C (122.00 °F)
Relative density	1.10 at 20.00 °C (68.00 °F)
Percent volatility	49 %
VOC's	534 g/l

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Hazardous reactions	This material is considered stable. However, keep away from moisture, heat or flame. However, this material can undergo hazardous polymerization. See Hazardous Polymerization for conditions to avoid.
Materials to avoid	Avoid contact with the following: Strong Oxidizers acids water bases amines
Hazardous decomposition products	Thermal decomposition may yield the following:, hydrogen cyanide (hydrocyanic acid), isocyanate monomers, acetaldehyde,
polymerization	Hazardous polymerization will also occur if contaminated with the following: - water (moisture)

11. TOXICOLOGICAL INFORMATION

Component: **Ethyl acetate**
Acute oral toxicity LD50 human 6,100 mg/kg

Component: **Ethyl acetate**
Acute oral toxicity LD50 rat 5,620 mg/kg

Component: **Ethyl acetate**
Mutagenicity
Overall, no consistent mutagenic activity has been reported.

12. ECOLOGICAL INFORMATION

There is no data available for this product.

Ethyl acetate

Ecotoxicity effects

Toxicity to fish LC50 Rainbow trout (Oncorhynchus mykiss) 96 h
484 mg/l

Toxicity to fish LC50 Fathead minnow (Pimephales promelas) 96 h
230 mg/l

Toxicity to algae EC50 Algae 96 h
2,000 mg/l

Toxicity to aquatic invertebrates EC50 Daphnia magna 48 h
717 mg/l

13. DISPOSAL CONSIDERATIONS

Environmental precautions: WARNING: KEEP SPILLS AND CLEANING RUNOFFS OUT OF MUNICIPAL SEWERS AND OPEN BODIES OF WATER.

Disposal

Waste Classification: 40 CFR 261.20 - .24 - Characteristic Waste D001, 100 lbs.

When a decision is made to discard this material as supplied, it is classified as a RCRA hazardous waste with the characteristic of ignitability.

For disposal, incinerate this material at a facility that complies with local, state, and federal regulations. (See 40 CFR 268)

Contaminated packaging: Empty containers should be taken for local recycling or waste disposal.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Resin solution
UN-No	UN 1866
Class	3
Packing group	II
Reportable Quantity	Ethyl acetate

IMO/IMDG

Proper shipping name	RESIN SOLUTION
UN-No	UN 1866
Class	3
Packing group	II

Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations

15. REGULATORY INFORMATION

Workplace Classification

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

This product is a 'controlled product' under the Canadian Workplace Hazardous Materials Information System (WHMIS).

SARA TITLE III: Section 311/312 Categorizations (40CFR370): Acute Health Hazard

Chronic Health Hazard

Fire Hazard

SARA TITLE III: Section 313 Information (40CFR372)

This product contains a chemical which is listed in Section 313 at or above de minimis concentrations.

The following listed chemicals are present: (Quantity present is found elsewhere on this MSDS.)

SARA Title III Components:	Toluene diisocyanate	26471-62-5
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CERCLA Information (40CFR302.4)

This material is regulated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304. This material is or contains chemical(s) listed in 40 CFR Table 302.4 or nondesignated RCRA ICR substance(s). (Nondesignated ICR substances apply to materials that will not be reused.) The Reportable Quantity(s) (RQ) are listed below. Releases in excess of its reportable quantity must be reported to the National Response Center (1-800-424-8802) and to the appropriate state and local emergency response organizations.

CERCLA Components:	Ethyl acetate	141-78-6	5,000 lbs RQ
	Toluene diisocyanate	26471-62-5	100 lbs RQ

US. Toxic Substances Control Act (TSCA) All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Pennsylvania

Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

California (Proposition 65)

This product contains a component or components known to the state of California to cause cancer:

Components: Toluene diisocyanate 26471-62-5

16. OTHER INFORMATION

Hazard Rating

	Health	Fire	Reactivity
HMIS	2*	3	1

Legend

ACGIH	American Conference of Governmental Industrial Hygienists
BAC	Butyl acetate
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit (STEL):
TLV	Threshold Limit Value
TWA	Time Weighted Average (TWA):
	Bar denotes a revision from prior MSDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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