



## Safety Data Sheet - Resist Remover RR5

### 1. Identification of Substance / Preparation and Company

**Trade name:**

Resist Remover RR5

**Use of the substance/Preparation:**

*Industry sector:* semiconductor industry photolithography sector  
*Type of use:* solution for resist removing

NOT FOR RECREATIONAL OR PERSONAL USE. NEVER CONSUME THIS PRODUCT.

**Identification of the company:**

Futurex, Inc.  
24 Munsonhurst Rd  
Franklin, NJ 07416 USA

Telephone no. 1-888-999-4188 from 8:00 am to 6:00 pm (EST)

**Emergency telephone number:** 1-800-535-5053 (U.S. and Canada)  
1-352-323-3500 (International)

**Person Responsible for SDS preparation:**

Aga Rusin, e-mail: info@futurex.com

### 2. Hazards identification

**GHS CLASSIFICATION:**

HEALTH	ENVIROMENTAL	PHYSICAL
Acute Oral Toxicity: Category 5 Eye Irritation: Category 2A Skin Irritation: Category 2 Acute(Inhalation-Vapor): Category 3	Acute Toxicity: None Known Chronic Toxicity: None Known	NOT HAZARD

Contact:

Email: info@futurex.com  
Website: www.futurex.com

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Creation date: 01/02/2010  
Last update: 05/01/2015

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**GHS LABEL:**

**SIGNAL WORD:** Warning!



GHS07

HAZARD STATEMENTS	PRECAUTIONARY STATEMENTS
<p>May be harmful if swallowed Causes serious eye irritation May cause allergic skin reaction</p>	<p>Keep container closed. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors. Wear goggles, rubber gloves, and protective clothing. Keep container in a cool, well-ventilated area. Wash hands thoroughly after handling.</p>

### 3. Composition/information on ingredients

CAS#	EINECS	Chemical Name	Concentration	Hazard symbols	R phrases*
		Trade Secret	>90		

### 4. First aid measures

#### Description of necessary measures according to routes of exposure

##### Swallowed

If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

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### Eye

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

### Skin

Flush skin with water after contact. Wash contaminated clothing before reuse.

### Inhaled

If inhaled, immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### Advice to Doctor

Activated charcoal mixture may be beneficial. Suspend 50g activated charcoal in 400ml water well. Administer 5ml/kg, or 350ml for an average adult.

### Additional Information

#### Aggravated medical conditions caused by exposure

The mechanism of blurred vision in humans is unknown. Based on observed effects from animal studies, we believe that some symptoms of pre-existing eye disease could be aggravated by exposures to this material. The mechanism of blurred vision in humans is unknown. Based on observed effects from animal studies, we believe that symptoms of pre-existing eye disease could be aggravated by overexposure to this material. Carcinogenicity Information: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen. IARC: International Agency for Research on Cancer. NTP: National Toxicology Program. OSHA: Occupational Safety and Health Administration. ACGIH: American Conference of Government Industrial Hygienist.

## 5. Fire Fighting Measures

### Extinguishing Media

Firefighters should wear full protective clothing including self-contained breathing apparatus. In case of fire use water spray, foam, dry chemical, CO<sub>2</sub>.

### Hazards from Combustion Products

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Chemical stability : stable Incompatibility with other materials: Incompatible or may react with strong oxidizers, acids, alkaline materials Decomposition : Decomposes with heat Polymerization : polymerization will not occur. Hazardous gases/vapors produced in fire are carbon monoxide.

### Special protective precautions and equipment for fire fighters

No Data Available

### Flammability Conditions

This product is a combustible liquid with regard to AS 1940. Actual autoignition temperature (AIT) can be affected by the concentration of vapors and oxygen, vapors and oxygen, vapor/air contact time, pressure, volume, catalytic impurities, etc. Process conditions should be analyzed to determine if the AIT's may be higher or lower. Vapor forms explosive mixture with air. Hazardous gases/vapors produced in fire are carbon monoxide. Autoignition (°C): 370

### Additional Information

**Hazchem Code** : N/A

## 6. Accidental release measures

### Emergency procedures

Clean-up personnel should wear full protective clothing including breathing apparatus. Remove source of heat, sparks, flame, impact, friction or electricity. Dike spill. Prevent material from entering sewers, waterways, or low areas.

### Methods and materials for containment and clean up

Recover free liquid for reuse or reclamation. Recover undamaged and minimally contaminated material for reuse and reclamation. Soak up with sawdust, sand, oil, dry or other absorbent material.

## 7. Handling and Storage

### Precautions for safe handling

Ensure an eye bath & safety shower are available and ready for use.

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### Conditions for safe storage, including any incompatibles

This product is a combustible liquid with regard to AS 1940. Storage should be in accordance with applicable commonwealth, state or territory regulation. Do not mix with strong acids or alkaline materials. Store in a well ventilated place. Keep container tightly closed. Avoid breathing vapors or mist. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling.

### 8. Exposure Controls, Personal Protection

#### National Exposure Standards

TWA: None established for the formulated product. PEL (OSHA): None established TLV (ACGIH): None established

#### Biological Limit Values

No Data Available

#### Engineering Controls

Use sufficient ventilation to keep employee exposures below recommended limits.

#### Personal Protection

**EYE/FACE PROTECTION:** Wear safety glasses. Wear coverall chemical goggles when possibility exists for eye and face contact due to splashing or spraying material. **RESPIRATOR:** An approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentration is expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, exposures levels are not known or any other circumstances where air-purifying respirators may not provide adequate protection. **PROTECTIVE CLOTHING:** Wear impervious clothing, such as gloves, apron, boots or whole bodysuit as appropriate. Recommended glove and clothing material: Butyl Rubber

### 9. Physical and Chemical Properties

<b>Physical State</b>	liquid
<b>Color</b>	colorless
<b>Odor</b>	perceptible
<b>Odor Threshold</b>	Not available
<b>pH</b>	Not available

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<b>Melting Point</b>	-20 °C
<b>Boiling Point</b>	196 – 225 °C
<b>Flash Point</b>	102 °C
<b>Evaporation Rate</b>	<0.1 (n-butyl acetate=1)
<b>Flammability</b>	Non-flammable liquid
<b>Flammability Limits (as percentage volume in air)</b>	
<b>Lower Explosion Limit</b>	0.9%
<b>Upper Explosion Limit</b>	8.0%
<b>Vapor Pressure</b>	0.2 mmHg (20 °C)
<b>Vapor Density</b>	Not available
<b>Specific Gravity/Relative Density</b>	1.092 (water = 1)
<b>Solubility in water</b>	5.3 g/L
<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Auto-ignition temperature</b>	370 °C (at 760 mmHg)
<b>Decomposition temperature</b>	Not available
<b>Viscosity</b>	Not available

### 10. Stability and reactivity

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.

**Conditions to Avoid:** Ignition sources, moisture, excess heat.

**Incompatibilities with Other Materials:** Strong oxidizing agents, strong acids, strong bases, acid chlorides.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide

**Hazardous Polymerization:** Will not occur.

### 11. Toxicological information

#### Toxicity Data

Toxicology: ANIMAL DATA Inhalation: 4-hour LC50: >11 mg/L, Rat Inhalation: 1-hour LC50: >10.7 mg/L, Rat Skin absorption LD50:> 2.250 mg.kg, Rabbit The mixture is a mild to severe skin irritant and

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a moderate eye irritant, but is not a skin sensitizer in animals. Toxic effects described in animals from exposure by inhalation include upper respiratory tract irritation. A single 4-hour exposure to 60pm caused transient corneal opacity and transient increases in the distance from the cornea to the surface of the lens of the eye. Toxicity described animals from repeated exposure by inhalation included decrease, and degeneration of olfactory epithellum (nasal tissue). Toxicity described in animals from repeated exposure by ingestion included weight loss, but there were no pathological abnormalities noted.

### Swallowed

No data supplied.

### Eye

Eye contact may cause eye irritation with discomfort, tearing or blurring of vision.

### Skin

May cause skin irritation with discomfort or rash.

### Inhaled

Inhalation may cause irritation of the upper respiratory passages, with coughing and discomfort. Some individuals who have been overexposed by inhalation or skin contact experienced blurry vision.

## 12. Ecological Information

### Aquatic Toxicity

Invertebrate - 48 hr. EC50 Daphnia Magna: 137 mg/L. RR5 was determined to be "inherently biodegradable" in a semi-continuous activated sludge (SCAS) test following OECD guidelines method 302A. BOD data suggests that these materials are "readily biodegradable". In five-day BOD tests, all materials had a BOD-5/COD ratios greater than 0.6.

## 13. Disposal considerations

### DISPOSAL METHODS

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Dispose of waste and residues in accordance with local authority requirements.

### **OTHER DISPOSAL CONSIDERATIONS:**

This material, when discarded, is not a hazardous waste as that term is defined by the Resource, Conservation and Recovery Act (RCRA), 40 CFR 261. Dispose of by incineration or recycle in accordance with local, state and federal regulations. Consult your attorney or appropriate regulatory officials for information on such disposal.

This product should not be dumped, spilled, rinsed or washed into sewers or public waterways.

### **14. Transport information**

#### **Department of Transportation (DOT) Requirements:**

Not regulated as dangerous goods

#### **General Transportation Information for Bulk Shipments**

Proper Shipping Name Chemicals N.O.S.

### **15. Regulatory information**

Labeling in accordance with Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

#### **Hazard symbols**

Not available.

#### **Hazardous component(s) to be indicated on label**

#### **R phrases**

#### **S phrases**

S 24/25 Avoid contact with skin and eyes.

#### **US FEDERAL**

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**TSCA:**

Ingredients are listed on the TSCA inventory.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

### 16. Other information

**Alterations/supplements to the previous editions:**

General update

**References:**

[1] Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Fourth revised edition, UNITED NATIONS, New York and Geneva, 2011

**Sources of key data used to compile the datasheet**

*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, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Futurrex 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 Futurrex has been advised of the possibility of such damages.*

Contact:

Email: [info@futurrex.com](mailto:info@futurrex.com)

Website: [www.futurrex.com](http://www.futurrex.com)

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