1. Identification

Material name CR-7001W
Issue date 12-March-2015
Revision date -
Supersedes date -
Other means of identification
Spec ID 110000001830
Synonyms None.
Recommended use Color resist.
Recommended restrictions None known.
Supplier information
FUJIFILM Electronic Materials U.S.A., Inc.
80 Circuit Drive
North Kingstown RI 02852
Transportation Emergency:
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC: 1-800-424-9300
Medical Emergency (24HR):
FOR ANY HEALTH & MEDICAL EMERGENCY, 24 HOURS /7 DAYS CALL:
1-800-365-8951
Non-emergency Telephone:
FOR ALL SDS REQUESTS & QUESTIONS, CALL CUSTOMER SERVICE:
1-800-553-6546

SDS file 50033_US_EN_V1.0
Replaces file None

2. Hazard(s) identification

Physical hazards Flammable liquids Category 3
Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 1
Specific target organ toxicity, single exposure Category 3 narcotic effects
OSHA defined hazards Not classified.

Label elements
Signal word Danger
Hazard statement Flammable liquid and vapor. Causes skin irritation. Causes serious eye damage. May cause drowsiness or dizziness.

Precautionary statement
Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling.
Response If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction.
Storage Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Mixture

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methoxy-2-propanol acetate</td>
<td></td>
<td>108-65-6</td>
<td>40-60</td>
</tr>
<tr>
<td>Cyclohexanone</td>
<td></td>
<td>108-94-1</td>
<td>10-20</td>
</tr>
<tr>
<td>1(or2)-Ethoxy-propanol acetate</td>
<td></td>
<td>98516-30-4</td>
<td>5-15</td>
</tr>
<tr>
<td>Multi functional acrylic monomer</td>
<td></td>
<td>Proprietary</td>
<td>1-10</td>
</tr>
</tbody>
</table>

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. The product contains: Acrylic resin derivative. Pigment Red. Pigment Yellow.

4. First-aid measures

Inhalation Move injured person into fresh air and keep person calm under observation. Get medical attention if any discomfort continues.

Skin contact Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. Get medical attention promptly if symptoms persist or occur after washing.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention immediately. Continue to rinse.

Ingestion Rinse mouth thoroughly with water and give large amounts of milk or water, if person is conscious. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Lay on the side. Get medical attention immediately.

Most important symptoms/effects, acute and delayed Inhalation: Vapors may cause drowsiness and dizziness. Eye contact: Can cause corneal opacity. Skin contact: Defats the skin. Ingestion: Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure.

Indication of immediate medical attention and special treatment needed Treat symptomatically.

General information Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

5. Fire-fighting measures

Suitable extinguishing media The product is flammable, and heating may generate vapors which may form explosive vapor/air mixtures. Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media None.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed. Solvent vapors may form explosive mixtures with air.

Special protective equipment and precautions for firefighters Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Use standard firefighting procedures and consider the hazards of other involved materials. Containers close to fire should be removed or cooled with water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate the area. Avoid inhalation of vapors/spray and contact with skin and eyes. Wear suitable protective clothing. See Section 8 of the SDS for Personal Protective Equipment.

Methods and materials for containment and cleaning up Remove sources of ignition. Absorb spillage with non-combustible, absorbent material. For waste disposal, see Section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground unless authorized by permit.

7. Handling and storage

Precautions for safe handling Local exhaust is recommended. Avoid inhalation of vapors and spray mist and contact with skin and eyes. Wear approved safety goggles. Wear protective gloves and appropriate clothing to prevent skin contact. The product is flammable, and heating may generate vapors which may form explosive vapor/air mixtures. Do not smoke and do not spray near an open flame or other sources of ignition. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Vapors may be ignited by a spark, a hot surface or an ember. Take precautionary measures against static discharges. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities

Follow rules for flammable liquids. Keep away from heat, sparks and open flame. Do not store near heat sources or expose to high temperatures. Store in closed original container in a dry place. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanone (CAS 108-94-1)</td>
<td>PEL</td>
<td>200 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanone (CAS 108-94-1)</td>
<td>STEL</td>
<td>50 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>20 ppm</td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanone (CAS 108-94-1)</td>
<td>TWA</td>
<td>100 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 ppm</td>
</tr>
</tbody>
</table>

US. Workplace Environmental Exposure Level (WEEL) Guides

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methoxy-2-propanol acetate (CAS 108-65-6)</td>
<td>TWA</td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

Biological limit values

ACGIH Biological Exposure Indices

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanone (CAS 108-94-1)</td>
<td>80 mg/l</td>
<td>1,2-Cyclohexanediol, with hydrolysis</td>
<td>Urine</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>8 mg/l</td>
<td>Cyclohexanol, with hydrolysis</td>
<td>Urine</td>
<td>*</td>
</tr>
</tbody>
</table>

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

1-Methoxy-2-propanol acetate (CAS 108-65-6) Can be absorbed through the skin.
Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Appropriate engineering controls

Use explosion-proof equipment. Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors. Provide easy access to water supply or an emergency shower.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear approved safety goggles.

Skin protection

Hand protection

Wear protective gloves impervious to the chemicals in use.

Other

Also wear appropriate clothing to prevent any possibility of skin contact. Suitable items can be recommended by the protective equipment supplier or by a qualified industrial hygienist.
Respiratory protection
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 1910.134. Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use positive pressure, air-supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance
- Physical state: Liquid.
- Form: Liquid.
- Color: Red.
- Odor: Ester.
- Odor threshold: No data available.
- pH: Not applicable.
- Melting point/freezing point: No data available.
- Initial boiling point and boiling range: > 212 °F (> 100 °C)
- Flash point: 116.6 °F (47.0 °C)
- Evaporation rate: No data available.
- Flammability (solid, gas): Not applicable.

Upper/lower flammability or explosive limits
- Flammability limit - lower (%): No data available.
- Flammability limit - upper (%): No data available.

Vapor pressure: No data available.
- Vapor density: > 1 (Air = 1)
- Relative density: 1 (Approximate)
- Solubility(ies)
  - Solubility (water): Slightly soluble in water.
- Partition coefficient (n-octanol/water): No data available.
- Auto-ignition temperature: No data available.
- Decomposition temperature: No data available.
- Viscosity: 10 - 14 mPa·s

Other information
- Density: 1.00 (Approximate)
- Molecular weight: Not applicable/mixture.
- Percent volatile: No data available.

10. Stability and reactivity

Chemical stability: Stable under normal temperature conditions.
- Possibility of hazardous reactions: Will not occur.
- Conditions to avoid: Heat, sparks, flames.
11. Toxicological information

Information on likely routes of exposure

**Inhalation**
Vapors may irritate throat and respiratory system and cause coughing.

**Skin contact**
Causes skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. The product contains components which may penetrate skin.

**Eye contact**
Causes serious eye damage.

**Ingestion**
Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms related to the physical, chemical and toxicological characteristics

**Inhalation**: Vapors may cause drowsiness and dizziness. **Eye contact**: Can cause corneal opacity. **Skin contact**: Defats the skin. **Ingestion**: Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure.

Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methoxy-2-propanol acetate (CAS 108-65-6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rabbit</td>
<td>&gt; 5000 mg/kg</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Rat</td>
<td>&gt; 3000 ppm, 6 hours</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>8532 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>948 mg/kg</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Rat</td>
<td>8000 ppm, 4 Hours</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>1540 mg/kg</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**
Causes skin irritation.

**Serious eye damage/eye irritation**
Causes serious eye damage.

**Respiratory or skin sensitization**

- **Respiratory sensitization**: No data available.
- **Skin sensitization**: Not a skin sensitizer.
- **Germ cell mutagenicity**: No data available.
- **Carcinogenicity**: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Cyclohexanone (CAS 108-94-1) 3 Not classifiable as to carcinogenicity to humans.


Not listed.

IARC:
1 = Carcinogenic to Humans; There is sufficient evidence of carcinogenicity in humans. 2A = Probably Carcinogenic to Humans; There is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals. 2B = Possibly Carcinogenic to Humans; There is limited evidence of carcinogenicity in humans and less than sufficient evidence of carcinogenicity in experimental animals. 3 = Not classifiable as to carcinogenicity to humans; The evidence of carcinogenicity is inadequate in humans and inadequate or limited in experimental animals. 4 = Probably not carcinogenic to humans; There is inadequate evidence of carcinogenicity in humans but evidence suggesting lack of carcinogenicity in experimental animals. Not listed = Not evaluated by IARC.

**Reproductive toxicity**
No data available.

**Specific target organ toxicity - single exposure**
May cause drowsiness or dizziness.

**Specific target organ toxicity - repeated exposure**
No data available.

**Aspiration hazard**
Swallowing or vomiting of the liquid may result in aspiration into the lungs.
Chronic effects
Prolonged skin contact may cause dermatitis. May cause damage to the liver and kidneys. Organic solvents may be absorbed into the body by inhalation and cause permanent damage to the nervous system, including the brain.

12. Ecological information
Ecotoxicity
The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methoxy-2-propanol acetate (CAS 108-65-6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td>Crustacea</td>
<td>LC50</td>
</tr>
<tr>
<td></td>
<td>Fish</td>
<td>LC50</td>
</tr>
<tr>
<td>Cyclohexanone (CAS 108-94-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td>Crustacea</td>
<td>EC50</td>
</tr>
<tr>
<td></td>
<td>Fish</td>
<td>LC50</td>
</tr>
</tbody>
</table>

Persistence and degradability
No data available.

Bioaccumulative potential
No data available.

Mobility in soil
No data available.

Mobility in general
The product is slightly soluble in water. The product contains organic solvents which will evaporate easily from all surfaces.

Other adverse effects
The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations
Disposal instructions
Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

Hazardous waste code
D001: Waste Flammable material with a flash point <140 °F

Other adverse effects
The product contains volatile organic compounds which have a photochemical ozone creation potential.

14. Transport information
DOT
UN number
UN1993
UN proper shipping name
Flammable liquid, n.o.s. (1-Methoxy-2-propanol acetate, Cyclohexanone)

Transport hazard class(es)
Class
3
Subsidiary risk
-
Label(s)
3
Packing group
III
Environmental hazards
No
Marine pollutant
No
Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

Special provisions
B1, B52, IB3, T4, TP1, TP29
Packaging exceptions
150
Packaging non bulk
203
Packaging bulk
242

IATA
UN number
UN1993
UN proper shipping name
Flammable liquid, n.o.s. (1-Methoxy-2-propanol acetate, Cyclohexanone)

Transport hazard class(es)
Class
3
Subsidiary risk
-
Label(s)
3
Packing group
III
Environmental hazards
No
ERG Code
3L
Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

IMDG
UN number UN1993
UN proper shipping name Flammable liquids, n.o.s. (1-Methoxy-2-propanol acetate, Cyclohexanone)
Transport hazard class(es)
  Class 3
  Subsidiary risk -
  Label(s) 3
  Packing group III
Environmental hazards
  Marine pollutant No
  EmS F-E, S-E
Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

15. Regulatory information

US federal regulations
This product is hazardous according to OSHA 29 CFR 1910.1200.
TSCA Section 4(a) Final Test Rules & Testing Consent Orders: Not regulated.
TSCA Section 5(e) PMN-Substance Consent Orders: Not regulated.
Drug Enforcement Administration (DEA). List 1(i), Precursor Chemicals (21 CFR 1310.02(a) and 1310.04(f)(1))
  Not listed.
TSCA Section 5(a)(2) Final Significant New Use Rules (SNURs)(40CFR 721, Subpt. E)
  Not regulated.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
  Not regulated.
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
  Not regulated.
CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)
  Cyclohexanone: 5000

Supernfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories
  Immediate Hazard - Yes
  Delayed Hazard - No
  Fire Hazard - Yes
  Pressure Hazard - No
  Reactivity Hazard - No
Section 302 extremely hazardous substance (40 CFR 355, Appendix A)
  No
Section 311/312 (40 CFR 370)
  Yes
Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)
  Not controlled

Inventory status

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>No</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

All ingredients are TSCA compliant.

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

State regulations
This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List
Cyclohexanone (CAS 108-94-1) Listed.
US. New Jersey Worker and Community Right-to-Know Act
Cyclohexanone (CAS 108-94-1)
US. Pennsylvania Worker and Community Right-to-Know Law
Cyclohexanone (CAS 108-94-1)
US. Rhode Island RTK
Cyclohexanone (CAS 108-94-1) Listed.

16. Other information, including date of preparation or last revision

Further information
HMIS® is a registered trade and service mark of the NPCA.
G - Safety Glasses, Gloves, Vapor Respirator

HMIS® ratings
Health: 3
Flammability: 2
Physical hazard: 0
Personal protection: G

NFPA ratings
Health: -
Flammability: -
Instability: -

List of abbreviations
LD50: Lethal Dose, 50%.
LC50: Lethal Concentration, 50%.
EC50: Effective concentration, 50%.

Disclaimer
THIS SAFETY DATA SHEET (SDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS SDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. FUJIFILM PLANAR SOLUTIONS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS SDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT FUJIFILM PLANAR SOLUTIONS AT THE PHONE NUMBER 1-800-553-6546 (CUSTOMER SERVICE) TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT.

SDS file
50033_US_EN_V1.0

Replaces file
None