



MATERIAL SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

DESCRIPTION: Casco-Resin CR-5H-C

PAGE 1 OF 8

1. Chemical Product and Company Identification

DESCRIPTION: **Casco-Resin CR-5H-C**
 PRODUCT CODE: 12-CR5HC-
 PRODUCT TYPE: Liquid UF Resin
 APPLICATION: General Gluing Of Wood Products

Manufacturer/Supplier Information

MSDS Prepared by:
 Borden Chemical, Inc.
 155 West A Street, Bldg. A-1
 Springfield, OR 97477

Emergency Phone Number
 Poison Control Center
 1-800-228-5635 ext 261

For additional health, safety or regulatory information, call 541-744-3256.

2. Composition, Information on Ingredients

The ingredients listed below have been associated with one or more immediate and/or delayed(*) health hazards. Risk of damage and effects depends upon duration and level of exposure. BEFORE USING, HANDLING, OR EXPOSURE TO THESE INGREDIENTS, READ AND UNDERSTAND THE MSDS.

50-00-0 *Formaldehyde

‡ by weight
1-5

3. Hazards Identification

3.1 Emergency Overview

Appearance: Colorless/white opaque liquid
 Odor: Slight formaldehyde odor

Hazardous polymerization may occur.
 Not a significant fire hazard.

HMIS Rating

HEALTH = 1 (slight)
 FLAMMABILITY = 0 (minimal)
 REACTIVITY = 0 (minimal)
 CHRONIC = *

DESCRIPTION: Casco-Resin CR-5H-C

PAGE 2 OF 8

3.2 Potential Health Effects

Immediate Hazards

INGESTION: No hazards known to Borden.

INHALATION: Not expected to be harmful under normal conditions of use. However, if allowed to become airborne, may cause irritation of nose, throat and lungs.

SKIN: May cause irritation on prolonged or repeated contact.

EYES: May cause irritation on prolonged or repeated contact.

Delayed Hazards

Formaldehyde 50-00-0

POTENTIAL CANCER HAZARD.

Rats chronically exposed to 14 ppm formaldehyde contracted nasal cancers. Based on animal data and limited epidemiological evidence, NTP and IARC have listed formaldehyde as a probable human carcinogen. OSHA regulates formaldehyde as a potential human carcinogen.

May cause allergic skin reaction. Some reports suggest that formaldehyde may cause respiratory sensitization, such as asthma, and that pre-existing respiratory and skin disorders may be aggravated by exposure.

OSHA has identified 0.5 ppm as the "Action Level", 29CFR 1910.1048. Please refer to the OSHA Standard for guidance applicable to your specific operations.

4. First Aid Measures

INGESTION: If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control center or hospital emergency room for any other additional treatment directions.

INHALATION: Remove to fresh air.

SKIN: In case of irritation, flush with water.

EYES: Immediately flush eyes with plenty of water. Call a physician if irritation persists.

DESCRIPTION: Casco-Resin CR-5H-C

PAGE 3 OF 8

5. Fire Fighting Measures

Flash point	Not applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Autoignition temperature	Not applicable

Will not burn unless water has evaporated. Dried material may burn.

In case of fire, water should be used to keep fire-exposed containers cool.

6. Accidental Release Measures

Large quantities: Enclose with diking material to prevent seepage into natural bodies of water, then consult Borden, Inc. Small quantities: Soak up with absorbent material and remove to a chemical disposal area.

7. Handling and Storage

7.1 Handling

Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of the material from eyes, skin and clothing.

Wash thoroughly after handling.

INHALATION: Avoid prolonged or repeated breathing of vapor.

SKIN: Avoid prolonged or repeated contact with skin and clothing.

EYES: Avoid prolonged or repeated contact with eyes.

7.2 Storage

Not harmed by freezing, but thaw frozen resin slowly and stir before using:

Store in a cool place. High temperatures shorten storage life.

Urea formaldehyde resin thickens with age. Rotate stock in storage to use oldest first.

Limited storage life - Refer to product specifications.

Solubility in water of urea resins can vary from infinite to insoluble depending on manufacturing procedure and age. Warm water helps in washing up resins with limited solubility.

8. Exposure Controls/Personal Protection

DESCRIPTION: Casco-Resin CR-5H-C

PAGE 4 OF 8

8.1 Exposure Controls

If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below acceptable criteria.

8.2 Personal Protection

Where air contaminants can exceed acceptable criteria, use NIOSH/MSHA approved full facepiece respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air in accordance with OSHA 29CFR 1910.1048(g) Respiratory Protection, OSHA 29CFR 1910.134 or other applicable standards or guidelines, including ANSI standards regarding respiratory protection. Wear chemical splash goggles or some other type of complete protection for the eye if contact is likely. Wear protective (impervious) gloves as required to prevent skin contact. Where high concentrations of hazardous ingredients may be present, such as in an emergency, full body protection should be worn.

Other protective equipment: Eye wash fountain, safety shower. Reusable protective clothing should be cleaned and ventilated after any formaldehyde contamination.

See OSHA 29CFR 1910.1048(h) Protective Equipment and Clothing and OSHA 29CFR 1910.1048(i) Hygiene Protection for other specific requirements based on the form of formaldehyde, the conditions of use and the hazards to be prevented.

8.3 Exposure Guidelines

Formaldehyde 50-00-0
 ACGIH TLV: 0.3 ppm (0.37 mg/m³) Ceiling, A2 - See Appendix A
 OSHA PEL: 0.75 ppm(0.9 mg/m³) TWA; 2 ppm(2.5mg/m³)15min STEL

9. Physical and Chemical Properties

Appearance	Colorless/white opaque liquid
Odor	Slight formaldehyde odor
Odor threshold	Not available
Specific gravity	1.2880-1.2960
pH	7.40-7.80 @ 25C
Viscosity, Brookfield	405-730 cps
Freezing point	<-10C
Solubility in water	Soluble
Octanol/water partition coefficient	Not available
Vapor pressure @ 25 C	~22 mm Hg
Vapor density (air=1)	Not available
Evaporation rate (butyl acetate=1)	~0.3
Boiling point, 760 mm Hg	~102C
Typical % Solids	~65.00%

DESCRIPTION: Casco-Resin CR-5H-C

PAGE 5 OF 8

10. Stability and Reactivity

Normally stable as defined in NFPA 704-12(4-3.1).

Decomposition products may include:

CO, CO₂, aldehydes (including formaldehyde), hydrogen cyanide, particulate matter and other organic compounds by thermal decomposition in air.

Hazardous polymerization:

May occur.

11. Toxicological Information

INGESTION: A similar product was found to be non-toxic orally when tested as described in 16 CFR Part 1500.3(c)(1) and (2).
INHALATION: A similar product was found to be non-toxic by inhalation when tested as described in 16 CFR Part 1500.3 (c)(1) and (2).
SKIN ABSORPTION: A similar product was found to be non-toxic dermally when tested as described in 16 CFR Part 1500.3 (c)(1) and (2).
SKIN: A similar product was not a primary irritant (primary skin irritation index less than 5.0/8.0) when tested as described in 16 CFR Part 1500.41.
EYES: A similar product was slightly irritating when tested as described in 16 CFR Part 1500.42.

Formaldehyde 50-00-0
LC50: rat=203 mg/m³ (RTECS)
LD50: orl-rat=0.8 g/kg (Merck); skn-rbt=0.27 g/kg (Sax)

12. Ecological Information

No data for ecotoxicity has been found. Effects are expected to be minimal.

The material is a soil mobile liquid initially which will solidify on aging. Biodegradation is expected to be very slow; bioaccumulation negligible.

13. Disposal Considerations

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

14. Transport Information

DESCRIPTION: Casco-Resin CR-5H-C

PAGE 6 OF 8

14.1 U.S. Department of Transportation (DOT)

The data provided in this section is for information only and may not be specific to your package size. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

Bulk shipments regulated as:

Environmentally Hazardous Substances, Liquid, N.O.S.
(Formaldehyde), 9, UN3082, III

Totes and smaller containers are non-regulated.

14.2 Canadian Transportation of Dangerous Goods (TDG)

Bulk shipments regulated as:

Environmentally Hazardous Substances, Liquid, N.O.S.
(Formaldehyde)

Class 9.2 UN3082 Pk. Gr. III

Tote tanks and smaller containers non-regulated.

15. Regulatory Information (Selected Regulations)**15.1 U.S. Federal Regulations****OSHA Hazard Communication Standard 29CFR1910.1200**

This material presents possible health hazards as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 "Hazard Communication" Standard.

SARA Title III: Section 311/312Reactivity hazard
Delayed health hazard**SARA Title III Section 313 and 40 CFR Part 372**

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.

Formaldehyde

50-00-0 2.50%

DESCRIPTION: Casco-Resin CR-5H-C

PAGE 7 OF 8

TSCA Section 8(b) Inventory

All reportable chemical substances are listed on the TSCA Inventory. We rely on certifications of compliance from our suppliers for chemical substances not manufactured by Borden.

15.2 Canadian Regulations

Workplace Hazardous Materials Information System (WHMIS)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR) and the MSDS contains all the information required by the CPR.

CLASS D, DIV 2A

Canadian Environmental Protection Act (CEPA)

All reportable chemical substances are listed on the Domestic Substances List (DSL) or otherwise comply with CEPA new substance notification requirements.

National Pollutant Release Inventory (NPRI)

This product contains the following chemical(s) subject to the reporting requirements of the Canadian Environmental Protection Act (CEPA) subsection 16(1), National Pollutant Release Inventory.

Formaldehyde 50-00-0 2.50%

16. Other Information

User's Responsibility

The OSHA Hazard Communication Standard 29CFR 1910.1200 and the Workplace Hazardous Materials Information System (WHMIS) require that the information contained on these sheets be made available to your workers. Educate and train your workers regarding OSHA and WHMIS precautions. Instruct your workers to handle this product properly. Consult with appropriate experts to guard against hazards associated with use of this product and its ingredients.

Disclaimer

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States or Canadian patent. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is

DESCRIPTION: Casco-Resin CR-5H-C

PAGE 8 OF 8

Disclaimer

based on contract, breach of warranty, negligence or otherwise.

CUR ISSUE 04-AUG-00

PREVIOUS ISSUE: 02-SEP-98

PRINT DATE: October 18, 2000 01:07 PM

040 12-CR5HC-. 334197

Delivery 0080467411

THIS IS THE LAST PAGE