1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED BY:
VON ROLL USA, INC.
200 VON ROLL DRIVE
SCHENECTADY, NY 12306
BUSINESS: (518) 344-7100
EMERGENCY: (518) 395-3310

PRODUCT ID: 7031
CHEMICAL FAMILY: COMPOUNDS AND ADHESIVES
CHEMICAL NAME: PHENOLIC BUTVAR RESIN
FORMULA: MIXTURE
SYNONYMS: NONE

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>HAZARDOUS PRODUCT COMPOSITION/CAS NUMBER</th>
<th>APPROX. WEIGHT PERCENT</th>
<th>ACGIH 8 HR. TWA</th>
<th>ACGIH UNIT</th>
<th>OSHA PEL-TWA</th>
<th>OSHA UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 64-17-5</td>
<td>30 - 60</td>
<td>1000</td>
<td>PPM</td>
<td>1000</td>
<td>PPM</td>
</tr>
<tr>
<td>Acetone 67-64-1</td>
<td>10 - 30</td>
<td>500</td>
<td>PPM</td>
<td>1000</td>
<td>PPM</td>
</tr>
<tr>
<td>Xylene (Mixed Isomers) 1330-20-7</td>
<td>10 - 30</td>
<td>100</td>
<td>PPM</td>
<td>100</td>
<td>PPM</td>
</tr>
<tr>
<td>Ethyl Benzene 100-41-4</td>
<td>1 - 5</td>
<td>100</td>
<td>PPM</td>
<td>100</td>
<td>PPM</td>
</tr>
<tr>
<td>Methyl Alcohol 67-56-1</td>
<td>1 - 5</td>
<td>200</td>
<td>PPM</td>
<td>200</td>
<td>PPM</td>
</tr>
<tr>
<td>Formaldehyde 50-00-0</td>
<td>&lt;5 PPM</td>
<td>MAXIMUM: 0.3</td>
<td>PPM</td>
<td>0.75</td>
<td>PPM</td>
</tr>
<tr>
<td>Benzene 71-43-2</td>
<td>&lt;5 PPM</td>
<td>0.5</td>
<td>PPM</td>
<td>1</td>
<td>PPM</td>
</tr>
<tr>
<td>Acetaldehyde 75-07-0</td>
<td>&lt;5 PPM</td>
<td>MAXIMUM: 25</td>
<td>PPM</td>
<td>200</td>
<td>PPM</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Refer to other MSDS sections for detailed information.

EFFECTS FROM ACUTE EXPOSURE:

INGESTION: Harmful if swallowed. Causes vomiting, nausea, and diarrhea. May cause severe damage of gastrointestinal tract. Aspiration can be a hazard if this material is swallowed. May cause pulmonary edema.

SKIN CONTACT: Causes moderate skin irritation. Will cause skin defatting. Can dry skin.

INHALATION: Causes irritation of the mouth, nose, and throat. Irritates mucous membranes. Excessive inhalation causes headache, dizziness, nausea and incoordination. Dust hazard would only exist if the volatiles have evaporated.

EYE CONTACT: May cause moderate eye irritation.


CARCINOGENICITY COMMENT: This product or one of its ingredients present at 0.1% or more is listed as a carcinogen or potential carcinogen by NTP, IARC or OSHA.

CARCINOGENICITY: Ethyl Benzene: The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence in humans and sufficient evidence in experimental animals for the carcinogenicity of ethyl benzene. IARC has given ethyl benzene an overall evaluation of 2B possibly carcinogenic to humans.

ROUTES OF ENTRY: Contact. Absorption. Inhalation. Ingestion.

OTHER: None known.

4. FIRST AID MEASURES

INGESTION: Seek medical attention immediately.
SKIN CONTACT: Remove contaminated clothing and launder before reuse. Wash with soap and water. Get medical attention if irritation persists.

INHALATION: If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

EYE CONTACT: In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

NOTES TO PHYSICIAN: Aspiration may cause severe lung damage. Evacuate stomach in a way which avoids aspiration.

5. FIRE FIGHTING MEASURES

FLASH POINT (F): -4  (C): -20
FLASH POINT METHOD: Tagliabue Open Cup (TOC)
IGNITION TEMP (F): Unknown  (C): Unknown
OSHA FLAMMABILITY CLASSIFICATION: Flammable Liquid, Class IB
FLAMMABLE LIMITS IN AIR - LOWER (%): 1.0
FLAMMABLE LIMITS IN AIR - UPPER (%): 12.8
SENSITIVITY TO MECHANICAL IMPACT (Y/N): No
SENSITIVITY TO STATIC DISCHARGE: Sensitivity to static discharge is expected; material has a flash point below 200 F (93 C).
FIRE FIGHTING PROCEDURES: Vapors may form explosive mixture with air. Extremely flammable. Positive pressure, self-contained breathing apparatus. Evacuate area and fight fire from a safe distance. Containers can build up pressure if exposed to heat (fire).

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard. Wear proper protective equipment as specified in the protective equipment section. Remove sources of ignition. Warn other workers of spill. Increase area ventilation.
7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Use ground strap and appropriate precautions for dispensing flammable liquids. Recommended storage in original container at temperature below 30 C (85 F). Avoid breathing vapors, if exposed to high vapor concentration, leave area at once. Avoid contact with skin and eyes. Use only in a well ventilated area. Danger: Extremely flammable. Keep container closed when not in use to prevent contact with acidic, basic or oxidizing materials. Keep away from food and smoking materials. Wash hands before eating and smoking. Use only spark-proof and explosion-proof tools and equipment.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Von Roll recommends that a competent professional, familiar with industrial engineering controls, evaluate the process to provide adequate protection for individuals involved in processes handling this material. This will involve evaluation and selection of appropriate engineering controls (such as ventilation and eyewash/safety shower) as well as appropriate personal protective equipment (such as respiratory protection, protective gloves, eye protection) for safely handling this material. The following guidelines should be considered in this process.


RESPIRATORY PROTECTION: Use in a well ventilated area. Use approved NIOSH respirator if TLV exceeded, or over exposure is likely.

GLOVES: Viton rubber gloves. Polyvinyl alcohol gloves.

EYE PROTECTION: Splash Goggles.

OTHER PERSONAL PROTECTION DATA: Face shield. Rubber apron or other chemical-resistant apron.

VENTILATION: Use only in well ventilated area. Localized mechanical ventilation.

9. PHYSICAL AND CHEMICAL PROPERTIES

COMPONENT INFORMATION:

<table>
<thead>
<tr>
<th>HAZARDOUS PRODUCT COMPOSITION/CAS NUMBER</th>
<th>APPROX. WEIGHT PERCENT</th>
<th>BOILING POINT (F):</th>
<th>BOILING POINT (C):</th>
<th>VAPOR PRESSURE @ 20°C (mmHg):</th>
<th>VAPOR DENSITY (AIR=1):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 64-17-5</td>
<td>30 - 60</td>
<td>173</td>
<td>78</td>
<td>40</td>
<td>1.59</td>
</tr>
<tr>
<td>Acetone 67-64-1</td>
<td>10 - 30</td>
<td>133</td>
<td>56</td>
<td>182</td>
<td>2.00</td>
</tr>
<tr>
<td>Xylene (Mixed Isomers) 1330-20-7</td>
<td>10 - 30</td>
<td>281</td>
<td>139</td>
<td>5.1</td>
<td>3.60</td>
</tr>
<tr>
<td>Ethyl Benzene 100-41-4</td>
<td>1 - 5</td>
<td>277</td>
<td>136</td>
<td>7.1</td>
<td>3.66</td>
</tr>
<tr>
<td>Methyl Alcohol 100-41-4</td>
<td>1 - 5</td>
<td>148</td>
<td>65</td>
<td>97.25</td>
<td>1.11</td>
</tr>
<tr>
<td>HAZARDOUS PRODUCT COMPOSITION/CAS NUMBER</td>
<td>APPROX. WEIGHT PERCENT</td>
<td>BOILING POINT (F):</td>
<td>BOILING POINT (C):</td>
<td>VAPOR PRESSURE @ 20 C (mmHg):</td>
<td>VAPOR DENSITY (AIR=1):</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>------------------------</td>
<td>--------------------</td>
<td>--------------------</td>
<td>-------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>67-56-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>&lt;5 PPM</td>
<td>-5.8</td>
<td>-21</td>
<td>10 @ -88 C</td>
<td>1.03</td>
</tr>
<tr>
<td>Benzene</td>
<td>&lt;5 PPM</td>
<td>176</td>
<td>80</td>
<td>75.2</td>
<td>2.77</td>
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<tr>
<td>Acetaldehyde</td>
<td>&lt;5 PPM</td>
<td>69</td>
<td>21</td>
<td>740</td>
<td>1.52</td>
</tr>
</tbody>
</table>

**PRODUCT INFORMATION:**

- **BOILING POINT (F):** NOT DETERMINED (C): NOT DETERMINED
- **FREEZING POINT (F):** NOT DETERMINED (C): NOT DETERMINED
- **MELTING POINT (F):** NOT DETERMINED (C): NOT DETERMINED
- **PHYSICAL STATE:** LIQUID
- **DESCRIPTION:** AMBER
- **ODOR:** AROMATIC
- **ODOR THRESHOLD (PPM):** UNKNOWN
- **% VOLATILE BY WEIGHT:** 76
- **EVAPORATION RATE (BUTYL ACETATE = 1):** >1
- **VAPOR PRESSURE (mmHg @ 20 C):** NOT DETERMINED
- **VAPOR DENSITY (AIR=1):** NOT DETERMINED
- **SPECIFIC GRAVITY @ 25 C (WATER = 1):** 0.89
- **ACID/ALKALINITY (MEG/G):** NOT DETERMINED
- **pH:** NOT DETERMINED
- **SOLUBILITY IN WATER DESCRIPTION:** APPRECIABLE
- **SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):** NOT DETERMINED

**10. STABILITY AND REACTIVITY**

- **CHEMICAL STABILITY:** Stable.
- **HAZARDOUS POLYMERIZATION:** Will not occur.
- **HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide. Carbon dioxide. Toxic fumes. Oxides of nitrogen.
MATERIALS TO AVOID: Avoid contact with acidic, basic or oxidizing agents.

CONDITIONS TO AVOID: Keep away from heat, sparks and flame.

11. TOXICOLOGICAL INFORMATION

COMPONENT INFORMATION:
Ethyl Alcohol 64-17-5
ACUTE ORAL LD50 (MG/KG): >25,000 (RAT)
ACUTE DERMAL LD50 (MG/KG): NOT DETERMINED
ACUTE INHALATION: LC50: 20,000 PPM / 10H (RAT)
OTHER: Eye and skin irritant.

Acetone 67-64-1
ACUTE ORAL LD50 (MG/KG): TDLO: 2,857 (HUMAN)
ACUTE DERMAL LD50 (MG/KG): 20,000 (RABBIT)
ACUTE INHALATION: LC50: 50,100 MG / M3 / 8H (RAT)
OTHER: Eye and skin irritant.

Xylene (Mixed Isomers) 1330-20-7
ACUTE ORAL LD50 (MG/KG): 4,300 (RAT)
ACUTE DERMAL LD50 (MG/KG): >1,700 (RABBIT)
ACUTE INHALATION: LC50: 5,000 PPM / 4H (RAT)
OTHER: Eye and skin irritant.

Ethyl Benzene 100-41-4
ACUTE ORAL LD50 (MG/KG): 3,500 (RAT)
ACUTE DERMAL LD50 (MG/KG): 17,800 (RABBIT)
ACUTE INHALATION: LC50: 4,000 PPM / 4H (RAT)
OTHER: Eye and skin irritant.

Methyl Alcohol 67-56-1
ACUTE ORAL LD50 (MG/KG): 5,628 (RAT)
ACUTE DERMAL LD50 (MG/KG): 15,800 (RABBIT)
ACUTE INHALATION: LC50: 64,000 PPM / 4H (RAT)
OTHER: Eye and skin irritant.

Formaldehyde 50-00-0
ACUTE ORAL LD50 (MG/KG): 100 (RAT)
ACUTE DERMAL LD50 (MG/KG): 270 (RABBIT)
ACUTE INHALATION: LC50: 203 MG / M3 (RAT)
OTHER: Eye and skin irritant.

Benzene 71-43-2
ACUTE ORAL LD50 (MG/KG): 930 (RAT)
ACUTE DERMAL LD50 (MG/KG): >9,400 (RABBIT)
ACUTE INHALATION: LC50: 10,000 PPM / 7H (RAT)
OTHER: Eye and skin irritant.

Acetaldehyde 75-07-0
ACUTE ORAL LD50 (MG/KG): 661 (RAT)
ACUTE DERMAL LD50 (MG/KG): 3,540 (RABBIT)
ACUTE INHALATION: LC50: 13,300 PPM / 4H (RAT)
OTHER: Eye and skin irritant.
12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No data at this time.

CHEMICAL FATE INFORMATION: No data at this time.

PERSISTENCE: Not determined.

APPRaisal: Not determined.

MOBILITY: Not determined.

13. DISPOSAL CONSIDERATIONS

DISPOSAL OF WASTE METHOD: Disposal should be made in accordance with federal, state and local regulations.

EPA HAZARDOUS WASTE DISPOSAL CODE: D001, RQ = 100 lb / 45.4 kg.

14. TRANSPORT INFORMATION

DOT SHIPPING NAME: ADHESIVES

DOT HAZARD CLASS: 3

DOT PACKING GROUP: PG II

DOT LABEL(S): FLAMMABLE LIQUID

UN/NA NUMBER: UN1133

PLACARDS: FLAMMABLE LIQUID

ICAO/IATA: 3 , II

MARINE POLLUTANT: NONE

NMFC CLASSIFICATION: CLASS 55

15. REGULATORY INFORMATION

HAZARD RATING SYSTEMS

NFPA RATING: HEALTH 2 , FLAMMABILITY 3 , INSTABILITY 0

HMIS CLASSIFICATION: HEALTH *2 , FLAMMABILITY 3 , PHYSICAL HAZARD 0

VOC EXCLUDING H2O & EXEMPTED VOC (LB/GL): 5.8 lb VOC/gal by ASTM 2369-81

COUNTRY REGISTRATION

TSCA INVENTORY STATUS: The ingredients of this product are either listed on
the TSCA inventory or are not subject to the notification requirements (exempt).

**CANADIAN INVENTORY:**

The ingredients of this product are listed on the Domestic Substance List, Non-Domestic Substance List or are exempt.

**EINECS:**

This product, and all its components, complies with EINECS.

**REGULATORY INFORMATION: CA/MA/NJ/PA RIGHT-TO-KNOW**

<table>
<thead>
<tr>
<th>HAZARDOUS PRODUCT COMPOSITION/CAS NUMBER</th>
<th>APPROX. WEIGHT PERCENT</th>
<th>CALIFORNIA PROPOSITION 65</th>
<th>MASSACHUSETTS RIGHT-TO-KNOW</th>
<th>NEW JERSEY RIGHT-TO-KNOW</th>
<th>PENNSYLVANIA RIGHT-TO-KNOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 64-17-5</td>
<td>30 - 60</td>
<td>NOT LISTED</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Acetone 67-64-1</td>
<td>10 - 30</td>
<td>NOT LISTED</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Xylene (Mixed Isomers) 1330-20-7</td>
<td>10 - 30</td>
<td>NOT LISTED</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Ethyl Benzene 100-41-4</td>
<td>1 - 5</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Methyl Alcohol 67-56-1</td>
<td>1 - 5</td>
<td>NOT LISTED</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Formaldehyde 50-00-0</td>
<td>&lt;5 PPM</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Benzene 71-43-2</td>
<td>&lt;5 PPM</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td>Acetaldehyde 75-07-0</td>
<td>&lt;5 PPM</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

**SARA 302 EXTREMELY HAZARDOUS SUBSTANCES LIST:**

No components of this product are listed as extremely hazardous substances in 40 CFR Part 355 and are present at levels which could require reporting and emergency planning.

**SARA (311, 312) HAZARD CLASS:**

ACUTE HEALTH HAZARD
CHRONIC HEALTH HAZARD
FIRE HAZARD

**SARA 313 CHEMICALS:**

This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirements of Section 313 of Title III of SARA and 40 CFR Part 372.

- METHYL ALCOHOL // 67-56-1
- ETHYL BENZENE // 100-41-4
- XYLENE (MIXED ISOMERS) // 1330-20-7

**WHMIS (CANADA):**

**WHMIS HAZARD CLASS:**

B2 FLAMMABLE LIQUIDS
D2A VERY TOXIC MATERIALS
16. OTHER INFORMATION

COMPANY DISCLAIMER:

These data are offered in good faith as typical values and not as a product specification. No warranty, either expressed or implied, is made. The recommended handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use.

ABBREVIATIONS:

EST = ESTIMATED  NEGL. = NEGLIGIBLE
NA = NOT APPLICABLE  UNKN = UNKNOWN

ADDITIONAL INFORMATION:

NONE