

MATERIAL SAFETY DATA SHEET

Royal Flush

MSDS DATE: 02/08/2012

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Royal Flush

MANUFACTURER: Beaver Research Co.

ADDRESS: 3700 Kilgore Rd.
Portage, MI 49002

EMERGENCY PHONE: 1-800-231-0454

CHEMTEL PHONE: 1-800-255-3924

OTHER CALLS: 269-382-0133

PRODUCT USE: Solvent applications where quality solvent is required.

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| Name | CAS NO. | OSHA PEL | ACGIH TLV |
|------------------|----------|----------|-----------|
| CARBON DIOXIDE | 124-38-9 | 5000 ppm | 5000 ppm |
| n-PROPYL BROMIDE | 106-94-5 | 25 ppm* | 10 ppm* |

*TWA (Time Weighted Averaged 8 hour work day)

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Aerosol under pressure do not expose to high temperatures or store in direct sunlight. Harmful if inhaled. Breathing vapors may cause drowsiness and dizziness. Causes eye, skin, and respiratory tract irritation. Target Organs: Liver, nervous system, reproductive system.

ROUTES OF ENTRY: Skin, Eyes, Ingestion, Inhalation

POTENTIAL HEALTH EFFECTS

EYES: Irritation likely

SKIN: Mild irritation likely, may cause localized defatting. May be harmful if absorbed through the skin.

INGESTION: Nausea, and Gastric discomfort.

INHALATION: Harmful if inhaled. Causes respiratory tract irritation. May cause liver damage. Inhalation of vapors may cause drowsiness and dizziness.

CHRONIC HEALTH HAZARDS: Repeated inhalation of high concentrations may cause lung, liver, kidney, urinary, blood, bone marrow, heart, eye, central nervous system, gastrointestinal, reproductive, developmental and fertility effects.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Excessive exposure will aggravate respiratory, cardiovascular, or pulmonary illnesses.

CARCINOGENICITY OSHA: No ACGIH: No NTP: 2B IARC: 2B OTHER: CA Prop65

SECTION 4: FIRST AID MEASURES

EYES: Remove contact lenses if worn. Flush with water for 15 minutes. seek medical attention if irritation persists. **SKIN:**

Wash with soap and water for 15 minutes. If irritation develops seek medical attention. **INGESTION:** Immediately seek medical attention Give person 2 glasses water if conscious and alert, do not induce vomiting unless directed by medical authority.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. seek medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR (% by Volume): UPPER: 9.5 LOWER: 3.8

FLASH POINT (Method TCC): None

AUTOIGNITION TEMPERATURE: F: 860 C: 460

NFPA HAZARD CLASSIFICATION: HEALTH: 2 FLAMMABILITY: 1 REACTIVITY: 0 OTHER:

HMIS HAZARD CLASSIFICATION: HEALTH: 2 FLAMMABILITY: 1 REACTIVITY: 0 PROTECTION: A

EXTINGUISHING MEDIA: ABC Dry chemical fire extinguisher, CO₂, Foam, or water spray.

SPECIAL FIRE FIGHTING PROCEDURES: Wear a self-contained breathing apparatus and personal protective equipment to avoid skin and eyes contact in fire situations.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Contents under pressure exposure to high temperatures above 120F can cause bursting. In fires, toxic and corrosive gases may be released. Do not weld or cut a drum with a torch as residual vapors could be flammable and an explosion could occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon, hydrogen halides and bromides.

SECTION 6: ACCIDENTAL RELEASE MEASURES

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ACCIDENTAL RELEASE MEASURES: Absorb spill with inert material, then place in chemical waste container. Clean up residue with an appropriate organic solvent. For large spills, dike for later disposal. Dispose in accordance with local, state and federal laws. small releases may be wiped up with wiping material.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Do not use or store near heat or open flame. Store in cool dry place. Exposure to temperatures above 120 F may cause bursting. Follow all label instructions. Vapors may accumulate in low lying areas.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: local exhaust can also be effective in minimizing odor. Provide sufficient ventilation to maintain emissions below recommended exposure limits.

VENTILATION: Normal, forced ventilation required

RESPIRATORY PROTECTION: Use NIOSH/MSHA approved respirator if ventilation is not sufficient and if mists are generated.

EYE PROTECTION: Safety glasses are always recommended when using chemicals.

SKIN PROTECTION: Impervious gloves such as Viton or Silvershield gloves offer the best extended protection.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Chemical resistant apron is recommended but not required

WORK HYGIENIC PRACTICES: Wash hands after use. A safety shower should be available in proximity to work areas where this product is routinely used.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear Liquid Spray

pH AS SUPPLIED: N/A

VAPOR PRESSURE (mmHg): 110.8 @ F: 77 C: 25

VAPOR DENSITY (AIR = 1): >1 @ F: 77 C: 25

SPECIFIC GRAVITY (H₂O = 1): 1.23 @ F: 77 C: 25

EVAPORATION RATE (Butyl Acetate =1): <1

PERCENT SOLIDS BY WEIGHT: 0%

PERCENT VOLATILE: 100 % BY WT/ BY VOL @ F: 77 C: 25

ODOR: Strong solvent odor

BOILING POINT: F: 158 C: 70

SOLUBILITY IN WATER: 4 %

VOLATILE ORGANIC COMPOUNDS (VOC): 1290 g/l

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID (STABILITY): Temperatures above 120F and Hot surfaces. Operating temperatures above 185°F and decomposition temperatures above 400°F.

INCOMPATIBILITY (MATERIAL TO AVOID): Some plastics, strong mineral acids and strong oxidizers. prolonged contact with aluminum, magnesium and zinc.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Oxides of carbon and hydrogen halide and bromides.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: Carcinogenicity: 1,2 Epoxy Butane (Butylene oxide) is classified as a possible carcinogen for humans by NTP and/or IARC Group 2B. LD 50 oral rat 1180 mg/kg; LCLO inhalation rat 4000 ppm/4hr.

N propyl bromide – 106-94-5 - LD 50 oral rat 3600 mg/kg; LC 50 inhalation rat 253,000 mg/m³/0.5 hr. NTP 1112009 report Evidence of carcinogenic activity on lab rats and mice. Reproductive Toxicity n-Propyl bromide is a suspect reproductive toxin which may impair fertility

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: Avoid runoff into storm sewers and ditches which lead to waterways. N propyl bromide – 106-94-5 - Fish: Fathead Minnow: 67.3 mg/l; 96H; LC50; Daphnia: Daphnia: 208.9 mg/l; 24H; EC50. Based on EPA's criteria for listing under the Toxics Release Inventory (U.S. EPA, 1992), we believe that nPB would not be sufficiently toxic to aquatic life to warrant listing under the Toxics Release Inventory. Based on its relatively low bioconcentration factor and log Kow value, nPB is not prone to bioaccumulation. (USEPA - Federal Register May 30, 2007). LOG Kow: 2.10.

SECTION 13: DISPOSAL CONSIDERATIONS

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WASTE DISPOSAL METHOD: Dispose of in accordance with local, State and Federal regulations. Waste treat or incinerate used material in compliance with all applicable government regulations. DO NOT flush into sanitary sewer or waterway.

RCRA HAZARD CLASS: Considered Non-hazardous under RCRA, however product should be fully characterized prior to disposal (40 CFR 261).

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

| | | | |
|---------------------------------------|---|-----------------------|-------|
| PROPER SHIPPING NAME: | Consumer Commodity | HAZARD CLASS: | ORM-D |
| ID NUMBER: | 1950 | PACKING GROUP: | N/A |
| WATER TRANSPORTATION | Refer to IMO/IMDG regulations | | |
| PROPER SHIPPING NAME: | AEROSOLS IN LIMITED QUANTITIES OF CLASS 2 | | |
| PRIMARY HAZARD CLASS/DIVISION: | 2.2 | UN/NA NUMBER: | 1950 |
| Packing Group: | None | | |
| AIR TRANSPORTATION | Refer to IATA regulations | | |
| PROPER SHIPPING NAME: | AEROSOLS IN LIMITED QUANTITIES OF CLASS 2 | | |
| PRIMARY HAZARD CLASS/DIVISION: | 2.2 | UN/NA NUMBER: | 1950 |
| Packing Group: | None | | |
| OTHER AGENCIES: | | | |
| INTERNATIONAL (IMDT-IATA): | | | |
| PROPER SHIPPING NAME: | Aerosols, Limited Quantities | | |
| HAZARD CLASS: | 2 Non-Flammable Compressed Gas | UN NUMBER: | 1950 |

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): All Chemicals are listed

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): 1,2-butylene oxide (1,2 Epoxy Butane) CAS 106-88-7 <1.0% by weight. Requires discharge of 20,000 lbs of n-propyl bromide to reach RQ of 100 lbs.)

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): None

311/312 HAZARD CATEGORIES: Immediate

313 REPORTABLE INGREDIENTS: 1,2-butylene oxide (1,2 Epoxy Butane), CAS 106-88-7 <1.0% by weight.

STATE REGULATIONS: California Prop 65N-propyl Bromide is known to the state of California to cause birth defects or other reproductive harm.

State Right to Know (RTK): 1,2, butylene oxide (1,2 Epoxy Butane) is listed in NJ, PA, CA, FL, MN, MA.

n-Propyl bromide is listed in MA, NJ and PA. TX Air Contaminants with Health Effects Screening Level.

Carbon dioxide (propellant) (124-38-9 <4%) MA Massachusetts Hazardous Substances List, PA Right-To-Know List of Hazardous Substances: TX Air Contaminants with Health Effects Screening Level:

INTERNATIONAL REGULATIONS: n-Propyl bromide CANADA (DSL): Ingredients listed WHMIS: Class D Division 2B, WHMIS- HC-1

SECTION 16: OTHER INFORMATION

OTHER INFORMATION: Level 1 Aerosol

PREPARED BY: Juanita Mercure

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