

**BREWER SCIENCE INC.
SAFETY DATA SHEET**

This Safety Data Sheet has been prepared to comply with the EC Directive, Canadian WHMIS and the OSHA Hazard Communication Standard.

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION
AND THE COMPANY/UNDERTAKING**

Product Name: APX-K1

Manufacturer: Brewer Science, Inc.
2401 Brewer Drive
Rolla, MO 65401

Information Phone Number: (573) 364-0300 **Fax:** (573) 368-3318

Email: msds@brewerscience.com

Emergency Phone Number:
Chemtrec Domestic North America: 800-424-9300
Chemtrec International: 703-527-3887

SDS Date of Preparation: 9/13/02

Product Use: Adhesion Promoter

SECTION 2: HAZARDS IDENTIFICATION

Clear Liquid with a rubbing alcohol odor.

EMERGENCY OVERVIEW: Flammable liquid and vapor. May cause eye, skin and respiratory tract irritation. May cause headache, dizziness, nausea, and other symptoms of central nervous system depression.

EU Preparation Classification (1999/45/EC): Highly Flammable (F), Irritant (Xi) R11, R36, R67

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS# / EINECS#	%	EU Classification (67/548/EEC)
Isopropanol (Propan-2-ol)	67-63-0 / 200-661-7	90-<100	F, Xi R11, R36, R67
Water	7732-18-5 / 231-791-2	5-10	No EU Classification or R phrase

See Section 16 for further information on EU Classification.

SECTION 4: FIRST AID MEASURES

Eye: Rinse thoroughly with water for at least 15 minutes, holding the eye lids open to be sure the material is washed out. Get immediate medical attention.

Skin: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation or symptoms of exposure develop. Launder clothing before re-use.

Inhalation: Remove victim to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get medical attention.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Keep the victim calm and warm. Get immediate medical attention.

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SECTION 5: FIRE AND EXPLOSION DATA

Extinguishing Media: Use water fog or spray, alcohol foam, carbon dioxide or dry chemical.

Special Fire Fighting Procedures: Wear an approved, positive pressure, self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water.

Unusual Fire Hazards: Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Vapors may form explosive mixtures with air in confined areas.

Hazardous Decomposition Products: Oxides of carbon.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill: Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Wear appropriate protective clothing to prevent eye and skin contact including impervious gloves, safety goggles and respirator if needed. Ventilate area. Cover with an inert absorbent material and collect into an appropriate container for disposal. Report spills and releases as required to appropriate authorities.

SECTION 7: HANDLING AND STORAGE

Handling: Avoid breathing vapors, aerosols and mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Always wear impervious gloves, chemical safety goggles and protective clothing when handling this material. Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use.

Storage: Store in a cool, dry, well-ventilated location away from incompatible materials. Keep containers closed when not in use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	Exposure Limits
Isopropanol	200 ppm TLV-TWA, 400 ppm TLV-STEL 400 ppm PEL-TWA 200 ppm DFG MAK 400 ppm UK WEL-TWA, 500 ppm UK WEL-STEL
Water	None Established

Ventilation: Use with adequate general or local exhaust ventilation to maintain exposure levels below the recommended occupational exposure limits. Use explosion-proof equipment where required.

Respiratory Protection: If needed, an approved respirator with organic vapor cartridges may be used. For higher exposures, a supplied air respirator may be required. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.

Skin Protection: Impervious gloves are recommended. Based on available test data, butyl rubber or Silver Shield gloves are suggested.

Eye Protection: Chemical safety goggles recommended.

Other Protective Equipment: Impervious clothing is required to prevent skin contact and contamination of personal clothing. An eye wash facility and safety shower should be available in the work area.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Clear liquid with a rubbing alcohol odor.

pH: Not available

Boiling Point: 82°C/180°F (Isopropanol)

Vapor Pressure: 96 mmHg @ 100°F (Isopropanol)

Vapor Density: Not determined

Flash Point: 11.7°C (53°F) (Isopropanol)

Specific Gravity: Not available

Melting Point: Not Applicable

Water Solubility: Partially Soluble

Evaporation Rate: Not available

Flammable Limits: LEL: 2.0 vol % (Isopropanol)
UEL: 12.7 vol % (Isopropanol)

SECTION 10: STABILITY AND REACTIVITY

Stability: **Stable:** X **Unstable:**

Stable under normal conditions of storage or use. May form explosive peroxides in air.

Incompatibility/Conditions to Avoid: Caustics, amines, alkanolamines, aldehydes, strong oxidizing agents, and chlorinated compounds. Keep away from heat, sparks, flames, and other sources of ignition. Avoid exposure to light, moist air and water.

Hazardous Decomposition Products: Combustion will produce oxides of carbon.

Hazardous Polymerization: **May Occur:** **Will not occur:** X

SECTION 11: TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eye: May cause eye irritation. Corneal injury is possible.

Skin: May cause irritation. Prolonged or repeated exposure may cause dermatitis. Isopropanol may be absorbed through the skin causing effects similar to inhalation.

Inhalation: Inhalation of vapors, mists, or aerosols may cause nose and throat irritation with the possibility of central nervous system depression. Symptoms of central nervous system depression include headache, dizziness, drowsiness, nausea and unconsciousness.

Ingestion: Swallowing may cause gastrointestinal irritation, nausea, vomiting, and diarrhea and central nervous system depression with symptoms similar to those described under inhalation..

Chronic Hazards: Chronic exposure may cause dermatitis.

Carcinogen Status: None of the components of this product are listed as carcinogens by OSHA, IARC, ACGIH, NTP or the EU Dangerous Substances Directive.

Medical Conditions Aggravated by Exposure: Pre-existing skin diseases.

Acute Toxicity Values:

Isopropanol: Oral rat LD50: 5045 mg/kg; Skin rabbit LD50: 12.8 g/kg; Inhalation rat LC50: 16,000 ppm/8 hr

SECTION 12: ECOLOGICAL INFORMATION

Isopropanol: LC50/96 hr values in fish are >100 mg.L.

SECTION 13: DISPOSAL INFORMATION

Dispose in accordance with all local, state and federal regulations.

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SECTION 14: TRANSPORT INFORMATION

DOT Shipping Name: Isopropanol Solution ERG #129
DOT Hazard Class: 3, PG II
UN Number: UN1219
DOT Labels Required (49CFR172.101): Flammable Liquid
Hazardous Substance (49CFR172.101): None
Reportable Quantity: N/A

IATA Shipping Name: Isopropanol Solution
IATA Hazard Class: 3, PG II
UN Number: UN1219
IATA Hazard Labels Required: Flammable Liquid

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

CERCLA 103 Reportable Quantity: This product is not subject to reporting under CERCLA. Some states have more stringent requirements. Report all spills in accordance with local, state, and federal regulations.

SARA TITLE III:

Hazard Category for Section 311/312: Acute Health, Fire Hazard

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None

Section 302 Extremely Hazardous Substances (TPQ): None



EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on TSCA.

STATE REGULATIONS:

California Proposition 65: This product contains the following chemicals known to the state of California to cause cancer or reproductive effects: None

INTERNATIONAL REGULATIONS:

European Community Labeling :

 Highly Flammable	 Irritant	R36 Irritating to eyes. R67 Vapours may cause drowsiness and dizziness. S16 Keep away from sources of ignition – NO SMOKING. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S51 Use only in well ventilated areas. S60 This material and its container must be disposed of as hazardous waste.
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SECTION 16: OTHER INFORMATION

HMIS Ratings: Health – 2 Flammability - 3 Reactivity - 1

NFPA Ratings: Health – 2 Flammability - 3 Reactivity - 1

SDS Revision History:

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9/13/02: New document.

9/13/02: Changed to EU format.

10/23/06: Made GHS format.

1/11/08: Updated with REACH format.

12/15/09: Updated EU label in Section 15. Updated formulation in Section 3. Updated exposure limits in Section 8. Updated physical data in Section 9. Added ACGIH and Inc.

EU Classes and Risk Phrases for Reference (See Sections 2 and 3):

C Corrosive

F Highly Flammable

Xi Irritant

R11 Highly Flammable.

R36 Irritating to eyes.

R67 Vapours may cause drowsiness and dizziness.

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This above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. Brewer Science, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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