MATERIAL SAFETY DATA SHEET
KEY BIOCLEAN

PRODUCT NAME: KEY BIOCLEAN
PRODUCT CODE:

HMIS CODES: H F R P
2* 3 0

SECTION 1: MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: KEY RESIN COMPANY
ADDRESS: 4061 Clough Woods Drive
Batavia, OH 45103
EMERGENCY NUMBER: 1-800-424-9300 **DATE PRINTED:** 03/28/06
INFORMATION NUMBER: 1-513-943-4225 **NAME OF PREPARER:** R. Cain

SECTION 2: HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	CAS NUMBER	WT %
Methyl Ethyl Ketone/2-Butanone	78-93-3	90.0
Nonylphenol/Nonyl-1-Hydroxy Benzene	25154-52-3	8.0
10,10' -Oxybisphenoxarsine (OBPA)	58-36-6	2.0

Substances listed are present in concentration of 1% or greater, or 0.1% if cited as a potential Carcinogen in the OSHA hazards communication standard. Where proprietary ingredient is listed, the identity is available as provided in 29 CFR 1910.1200.

NE - Not Established

SECTION 3: PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING RANGE : 174º F, 79º C
VAPOR DENSITY (AIR=1) : NE
% NON-VOLITILES (BY WEIGHT) : 10
SOLUBILITY IN WATER : Insoluble
APPEARANCE AND ODOR : Straw -colored liquid; Solvent odor
SPECIFIC GRAVITY (H20=1) : 0.82
EVAPORATION RATE : NE
VAPOR PRESSURE : 70.6 mm/Hg @ 25º C

SECTION 4: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 35º F, 2º C
METHOD USED: Other
FLAMMABLE LIMITS IN AIR BY VOLUME - **LOWER:** Not Established
UPPER: Not Established

EXTINGUISHING MEDIA:

SMALL FIRES: Use dry chemical, Carbon Dioxide, Halon, Water Spray, or Foam.
LARGE FIRES: Use water spray, fog, or alcohol foam.

OSHA FLAMMABILITY CLASSIFICATION:

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters and others who may be exposed to the products of combustion should be equiped with NIOSH approved positive pressure self-contained breathing apparatus (SCBA) and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS: When exposed to flames or high temperatures encountered during fire conditions, selaed containers may rupture because of build up of internal pressure. Cool containers with water.

Vapors may be heavier than air and may travel considerable distances from the material handling point. Vapors can be ignited by a spark, flame, cigarette, electric motor, static discharge, engine, pilot light, hot surface, or other ignition source.

May liberate irritating or toxic vaoprs during combustion or decomposition.

SECTION 5: REACTIVITY DATA

STABILITY: Product stable under normal conditions of storage and use.

CONDITIONS TO AVOID: All sources of ignition

MATERIALS TO AVOID: Oxidizing agents, strong acids and bases

THERMAL DECOMPOSITION PRODUCTS: If heated to high temperatures, this product may emit smoke, soot, toxic fumes such as Carbon Dioxide and carbon monoxide, and metal oxides.

Elemental arsenic and its corresponding oxide can be liberated during pyrolysis at an approximate temperature of 500º C

HAZARDOUS POLYMERIZATION: Will not occur

SECTION 6: HEALTH HAZARD DATA

HEALTH RISKS AND SYMPTOMS OF EXPOSURE:

SKIN CONTACT: Can cause mild to moderate irritation. Prolonged or repeated contact can defat the skin, cause irritation, and lead to the development of dermititis.

EYE CONTACT: Causes severe irritation. Can cause injury (i.e. burns) to the cornea and other tissues. Corneal opification and vascularization can occur. Vapors and/or mists can cause mild to moderate irritation.

INHALATION: Can cause irritation to the nose, throat, and upper respiratory tract. Inhalation can cause dizziness, headaches, and incoordination. Nausea, vomiting, and gastrointestinal upset can occur.

INGESTION: Ingestion causes severe irritation of the mouth, throat, and esophagus. Can cause nausea, vomiting, and gastrointestinal upset. Dizziness, faintness, drowsiness, and incoordination (ataxia) can occur.

ADDITIONAL EFFECTS: Depending on the route, frequency, and duration of exposure, toxicity may effect to following organs and/or systems:

CENTRAL AND/OR PERIPHERAL NERVOUS SYSTEM.

RESPIRATORY SYSTEM.

EYE.

SKIN.

TOXICOLOGIC INFORMATION

The inforamation in this section, though detailed, can be subject to misinterpretation. Therefore, it is essential the following information be interpreted by individuals trained in its evaluation.

METHYL ETHYL KETONE

TOXIC EFFECTS: Contact to eyes or skin with liquid or concentrated vapors can cause irritation. Ingestion or inhalation of vapors produces upper respiratory tract irritation, headache, nausea, vomiting, dizziness, incoordination, narcosis. Ingestion can also cause gastrointestinal irritation.

CARCINOGENICITY:

ACGIH: NO **IARC MONOGRAPHS:** NO **NTP ANNUAL REPORT:** NO **OSHA:** NO

NONYLPHENOL

TOXIC EFFECTS: Extremely irritation to the eyes. Permanent eye injury is possible. Skin contact produces severe skin damage with burns and blistering. Ingestion causes abdominal pain, nausea, and diarrhea. Inhalation results in severe upper respiratory tract irritation.

ACUTE TOXICITY STUDIES:

ORAL LD 50: (rat) 580 mg/Kg

DERMAL LD 50: (rabbit) 2,140 mg/Kg

EYE AND/OR SKIN IRRITATION STUDIES:

EYE IRRITATION-DRAIZE: (rabbit) 57/110

SKIN IRRITATION-DRAIZE: (rabbit) 8.0/8.0

CARCINOGENICITY:

ACGIH: NO **IARC MONOGRAPHS:** NO **NTP ANNUAL REPORT:** NO **OSHA:** NO

10,10'-OXYBISPHENOXARSINE (OBPA)

TOXIC EFFECTS: Causes severe eye irritation and tissue damage. Skin contact can cause irritation. Ingestion produces severe gastrointestinal irritation. Inhalation can irritate the respiratory tract.

ACUTE TOXICITY STUDIES:

ORAL LD 50: (rat) 25-35 mg/Kg

DERMAL LD 50: (rabbit) 400-2,000 mg/Kg

DERMAL LD 50: (rat) 100-300 mg/Kg

EYE AND/OR SKIN IRRITATION STUDIES: Moderate to severe skin irritant (3.1-5.8/8.0) following 24-hours of exposure. Produces severe eye irritation and corneal opacities.

OTHER TOXICITY STUDIES: In a 90-day oral study in rats, OBPA produced a statistically significant decrease in body weight gain, as well as liver effects. OBPA was not found to be mutagenic in bacteria or yeast. Negative results were also obtained in mouse lymphoma assay.

CARCINOGENICITY:

ACGIH: NO **IARC MONOGRAPHS:** NO **NTP ANNUAL REPORT:** NO **OSHA:** NO

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Some of the components of this product may aggravate existing medical conditions. Individuals with medical conditions involving the following organ(s) and/or system(s) should take appropriate precautions when handling this product:

RESPIRATORY SYSTEM.

SKIN.

Always wear appropriate protective equipment, as recommended by your industrial hygiene or safety personnel, when exposure to this product can occur.

EMERGENCY AND FIRST AID PROCEDURES:

EYES: Immediately flush eyes with large amounts of running water for at least 15 minutes. Lift upper and lower eye lids frequently. Get medical attention immediately.

SKIN: Remove contaminated clothing and shoes. Wash affected area with soap and water. If irritation develops, consult a physician. Wash contaminated clothing seperately before reuse.

INGESTION: Seek medical attention. Unless advised otherwise, induce vomiting by giving syrup of IPECAC followed by 2 glasses of water. If IPECAC is unavailable, give 2 glasses of water and induce vomiting by touching finger to back of victim's throat. Keep victim's head below hips while vomiting. Get medical attention.

Note to physician: Treatment should directed at preventing absorption, administering to the symptoms as they occur, and providing supportive therapy.

INHALATION: If effects occur, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get medical attention.

SECTION 7: PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Stop discharge, if it can be performed safely, and contain material. If a substancial quantity is spilled, recover with pump or vacuum truck. Explosion-proof equipment should be used if this product is flammable or combustible (see **SECTION 4**). Otherwise, use an absorbent such as Fuller's Earth, clay, or other appropriate synthetic absorbent. Place contaminated material in a suitable container for disposal. Appropriate safety measures and protective equipment should be used. (see **SECTION 8**).

Do not flush to sewer, stream, or other bodies of water.

WASTE DISPOSAL METHOD: If discarded in its original unused form, this product exhibits the characteristics of a RCRA hazardous waste as defined under **40CFR 261.21 (i.e. IGNITABLE-D001)**. Therefore, it must be managed (stored/treated/disposed/etc.) at a properly permitted facility, in compliance with all applicable federal, state, and local requirements. Be sure to contact the appropriate government environmental agencies if further guidence is required.

Of the methods of disposal currently available, it is recommendd that an alternative be selected according to the following order of preference, based upon environmental acceptablity:

1. Recycle or rework if at all feasible,
2. Incinerate at an authorized facility, or
3. Treat at an acceptable waste treatment facility.

PRECAUTIONS: Eliminate all sources of ignition.

If the airborne concentration exceeds established limits (TLV or PEL), or if high airborne concentrations can occur, evacuate employees and ventilate the area.

A supplied air respirator or self-contained breathing apparatus (SCBA), should be used for entry into enclosed spaces, or in areas with inadequate ventilation.

RECOMMENDED STORAGE PRACTICE AND CONDITIONS: Store in cool, dry, well ventilated area. Do not store near heat or ignition sources, or in direct sunlight. Always keep containers tightly closed to avoid contamination.

SPECIAL WARNING: Hot organic chemical vapors or mists can suddenly and without warning cumbust when mixed with air. Ignition can occur at typical elevated temperature process conditions. Any proposed use in such processes should be evaluated thoroughly to assure safe operating conditions.

CONTAINER USE PROCEDURES: Containers should be supported and grounded before opening, dispensing, mixing, pouring, and emptying. Open with non-sparking tools. If the container is warm, open slowly to release internal pressure.

EMPTY CONTAINER PRECAUTIONS: This container is hazardous when empty. Do not use heat, sparks, open flames, torches, or cigarettes on or near empty container. Empty containers contain retain product residues. Do no reuse empty container for food, clothing, or products for human or animal consumption or where skin contact may occur.

SECTION 8: CONTROL MEASURES

RESPIRATORY PROTECTION: Avoid breathing vapor and/or mist.

When established airborne exposure limits are surpassed (see **AIRBORNE EXPOSURE LIMITS** in this section), wear NIOSH/MSHA approved equiment. Determine the appropriate type equipment for specific application by consulting the respirator manufacturer. Observe the respirator use limitations specified by NIOSH/MSHA or the manufacturer.

High airborne concentrations may necessitate the use of a self-contained breathing apparatus (SCBA) or a supplied air respirator. In addition, respiratory protection programs must be in compliance with **29CFR 1910.134**.

The following NIOSH/MSHA approved equipment is recommended: **ORGANIC VAPOR RESPIRATOR**

VENTILATION: Maintain airborne concentrations below the established exposure limits (see **AIRBORNE EXPOSURE LIMITS** in this section) by providing adequate ventilation. General (dilution) ventilation may be acceptable. However, local exhaust ventilation is recommended when vapors, mists, or dusts can be released.

SKIN PROTECTION: Wear protective clothing and appropriate impervious gloves. Because a variety of protective gloves exist, always consult a glove manufacturer to determine the proper type for specific operation.

An emergency shower should be readily available.

The following gloves and/or clothing are recommended: **RUBBER GLOVES**

EYE PROTECTION: Wear chemical splash goggles or safety glasses with side shields. An eye wash facility should be rreadily available.

PERSONAL HYGIENE: Wash thoroughly after handling, especially before eating, drinking, smoking, or using restroom facilities. Wash contaminated goggles, faceshield, and gloves. Professionally launder contaminated clothing. Discard contaminated shoes.

AIRBORNE EXPOSURE LIMITS

METHYL ETHYL KETONE

ACGIH TLV-TWA:	200ppm	590 mg/m^3
STEL:	300ppm	885 mg/m^3
OSHA PEL:	200ppm	590 mg/m^3
STEL:	300ppm	885 mg/m^3

NONYLPHENOL

ACGIH TLV-TWA:	Not Established
OSHA PEL:	Not Established

10,10'-OXYBISPHENOXARSINE (OBPA)

ACGIH TLV-TWA:	0.2 as As mg/m^3
OSHA PEL:	0.5 as As mg/m^3

This is an organic arsenical and is, therefore, subject to the organic asenic standards, **29 CFR 1910.1000 Table Z-1.** In addition, the Key Resin Company industrial guideline is 0.1 mg/m^3 as OBPA or 0.03 mg/m^3 as arsenic.

SECTION 9: REGULATORY INFORMATION

D. O. T. PROPER SHIPPING NAME:	Flammable Liquid, NOS (Methyl Ethyl Ketone); 3; UN1993; PG II
PROPER SHIPPING NAME:	Flammable Liquid, NOS (Methyl Ethyl Ketone)
HAZARD CLASS:	Class 3, Flammable Liquid (IATA, HM-181); 3.2 (IMO)
SUBSIDARY RISK:	None
UN/NA ID NUMBER:	UN 1993

SARA TITLE III SECTION 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR 372:

CAS #	Chemical Name	Percent by Weight
78-93-3	Methyl Ethyl Ketone/2-Butanone	90.0%
58-36-6	10,10' -Oxybisphenoxarsine	2.0%

SARA TITLE III SECTION 302: Pursuant to Section 302 of Sara Title III, this product contains the following extremely hazardous substances:

CAS #	Chemical Name	Percent by Weight
58-36-6	10,10' -Oxybisphenoxarsine	2.0%

SARA TITLE III SECTION 311/312: Pursuant to Section 311/312 of Sara Title III, the physical and health hazard catagories for this product are identified below:

FIRE HAZARD:	Yes
SUDDEN RELEASE OF PRESSURE HAZZARD:	No
REACTIVITY HAZARD:	No
IMMEDIATE (ACUTE) HEALTH HAZARD:	Yes
DELAYED (CHRONIC) HEALTH HAZARD:	Yes

EPA REGISTRATION NUMBER: 2829-110

COMMONWEALTH OF PENNSYLVANIA: All of the materials in this product are required by the Commonwealth of Pennsylvania to be identified are listed below. In addition, some of the materials identified may have been placed by the Commonwealth of Pennsylvania on thier hazardous substance list.

CAS #	Chemical Name	Percent by Weight
78-93-3	Methyl Ethyl Ketone/2-Butanone	90.0%
25154-52-3	Nonylphenol/Nonyl-1-hydroxy benzene	8.0%
58-36-6	10,10' -Oxybisphenoxarsine	2.0%

The specific chemical identity of any substance not identified with a chemical abstract service number is being held as a trade sectret.

STATE OF CALIFORNIA: The California Safe Drinking Water and Toxic Enforcement Act of 1986, otherwise known as **PROPOSITION 65**, requires that persons potentially exposed to certain substances be made aware of the chronic effects of the substances specified by the state of California.

This product is not known to contain substances "known to the state fo California to cause cancer, birth defects, or reproductive harm."

SECTION 10: DISCLAIMER

Data and recommendations presented herein are based upon our and other researchers and are believed to be accurate. The products discussed are distributed without warranty (expressed or implied) and the customer shall make his own determination of suitability for his particular purpose.