# SAFETY DATA SHEET



PK Cleaner

### **Section 1. Identification**

Product identifier : PK Cleaner

Product code : 690

Other means of

identification

: Not available.

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Supplier's details : Betco Corporation

1690 Huron Church Road, Suite 169

Windsor ON N9C0AC CA

400 Van Camp Road

Bowling Green, OH 43402 US

www.betco.com 888-462-3826

Emergency telephone number (with hours of

operation)

: Chemtrec (800) 424-9300 24 hour

### Section 2. Hazard identification

Classification of the substance or mixture

: FLAMMABLE LIQUIDS - Category 3 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1

**GHS label elements** 

Hazard pictograms





Signal word : Warning

**Hazard statements** : Flammable liquid and vapor.

Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction.

**Precautionary statements** 

Response

Prevention : Wear protective gloves: 1 - 4 hours (breakthrough time): disposable vinyl. Wear

protective clothing. Wear eye or face protection: Recommended: safety glasses. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing vapor. Wash hands thoroughly after handling.

Contaminated work clothing should not be allowed out of the workplace.

: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF ON SKIN: Wash with plenty of soap and water. Take off

contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation

persists: Get medical attention.

Storage : Not applicable.

### Section 2. Hazard identification

**Disposal** 

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

### Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

Other means of

: Not available.

identification

Ingredient name	% (w/w)	CAS number
2-butoxyethanol	5 - 10	111-76-2
(2-methoxymethylethoxy)propanol	5 - 10	34590-94-8
Alcohols, C9-11, ethoxylated	1 - 5	68439-46-3
(R)-p-mentha-1,8-diene	1 - 5	5989-27-5
Fatty acids, tall-oil	1 - 5	61790-12-3

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

### Section 4. First-aid measures

#### **Description of necessary first aid measures**

**Eye contact** 

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

#### Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact**: Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

### Section 4. First-aid measures

**Eye contact** : Adverse symptoms may include the following:

> pain or irritation watering redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:

> irritation redness

Ingestion : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large

quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

**Protection of first-aiders** No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

: Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

Wash contaminated clothing thoroughly with water before removing it, or wear

See toxicological information (Section 11)

### Section 5. Fire-fighting measures

### **Extinguishing media**

Suitable extinguishing

media

: Do not use water jet.

**Unsuitable extinguishing** media

Specific hazards arising from the chemical

: Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

**Hazardous thermal** decomposition products

: Decomposition products may include the following materials: carbon dioxide

carbon monoxide

Special protective actions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective** equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure

### Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### Section 6. Accidental release measures

### **Environmental precautions**

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

#### Methods and materials for containment and cleaning up

#### **Small spill**

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

#### Large spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

### Section 7. Handling and storage

#### Precautions for safe handling

#### **Protective measures**

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

# Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

# Conditions for safe storage, including any incompatibilities

: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### Section 8. Exposure controls/personal protection

**Control parameters** 

Occupational exposure limits

### Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits	
2-butoxyethanol	CA Alberta Provincial (Canada, 4/2009).  8 hrs OEL: 97 mg/m³ 8 hours.  8 hrs OEL: 20 ppm 8 hours.  CA British Columbia Provincial (Canada, 6/2017).  TWA: 20 ppm 8 hours.  CA Ontario Provincial (Canada, 1/2018).  TWA: 20 ppm 8 hours.  CA Quebec Provincial (Canada, 1/2014).  TWAEV: 20 ppm 8 hours.  TWAEV: 97 mg/m³ 8 hours.  CA Saskatchewan Provincial (Canada, 7/2013).  STEL: 30 ppm 15 minutes.  TWA: 20 ppm 8 hours.	
(2-methoxymethylethoxy)propanol	STEL: 30 ppm 15 minutes.	

# Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

# **Environmental exposure** controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### **Individual protection measures**

**Hygiene measures** 

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### Section 8. Exposure controls/personal protection

### **Eye/face protection**

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: safety glasses

#### Skin protection

**Hand protection** 

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. 1 - 4 hours (breakthrough time): disposable vinyl

**Body protection** 

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** 

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

### Section 9. Physical and chemical properties

### **Appearance**

Physical state : Liquid.

Color : Straw.

Odor : Ether-like.

Odor threshold : Not available.

pH : 9.5 to 10.2

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: 52.778°C (127°F)

Evaporation rate : Not available.
Flammability (solid, gas) : Not available.
Lower and upper explosive : Not available.

(flammable) limits

Vapor pressure: Not available.Vapor density: Not available.

Relative density : 1.005

**Solubility** : Easily soluble in the following materials: cold water and hot water.

Solubility in water : Not available.

Partition coefficient: n- : Not available.

octanol/water

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Flow time (ISO 2431) : Not available.

### Section 10. Stability and reactivity

**Reactivity**: No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

Possibility of hazardous reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld,

braze, solder, drill, grind or expose containers to heat or sources of ignition.

**Incompatible materials**: Reactive or incompatible with the following materials:

oxidizing materials

**Hazardous decomposition** 

products

: Under normal conditions of storage and use, hazardous decomposition products

should not be produced.

### **Section 11. Toxicological information**

### Information on toxicological effects

### **Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
2-butoxyethanol	LC50 Inhalation Gas.	Rat	450 ppm	4 hours
	LD50 Dermal	Rabbit	220 mg/kg	-
	LD50 Oral	Rat	250 mg/kg	-
Alcohols, C9-11, ethoxylated	LD50 Oral	Rat	1378 mg/kg	-
(R)-p-mentha-1,8-diene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	4400 mg/kg	-
Fatty acids, tall-oil	LD50 Oral	Rat	>10000 mg/kg	-

#### **Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-butoxyethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
(2-methoxymethylethoxy) propanol	Eyes - Mild irritant	Human	-	8 milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
(R)-p-mentha-1,8-diene	Skin - Mild irritant	Rabbit	-	24 hours 10 Percent	-

### **Sensitization**

Not available.

#### **Mutagenicity**

Not available.

### **Carcinogenicity**

Not available.

### **Reproductive toxicity**

Not available.

### **Teratogenicity**

# Section 11. Toxicological information

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

### **Aspiration hazard**

Name	Result
2-butoxyethanol	ASPIRATION HAZARD - Category 1

Information on the likely

routes of exposure

: Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact**: Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact**: Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : No specific data.

**Skin contact**: Adverse symptoms may include the following:

irritation redness

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

**Short term exposure** 

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

**Long term exposure** 

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed

to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

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**Numerical measures of toxicity** 

**Acute toxicity estimates** 

# Section 11. Toxicological information

Route	ATE value
Oral	6507 mg/kg

### **Section 12. Ecological information**

### **Toxicity**

Product/ingredient name	Result	Species	Exposure
2-butoxyethanol	Acute EC50 >1000 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
-	Acute LC50 800000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 1250000 µg/l Marine water	Fish - Menidia beryllina	96 hours
Alcohols, C9-11, ethoxylated	Acute EC50 5.36 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 2686 μg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 8500 µg/l Fresh water	Fish - Pimephales promelas	96 hours
(R)-p-mentha-1,8-diene	Acute EC50 421 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 688 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours

### Persistence and degradability

Not available.

#### **Bioaccumulative potential**

Product/ingredient name	LogPow	BCF	Potential
2-butoxyethanol (2-methoxymethylethoxy)	0.81 0.004	-	low low
propanol (R)-p-mentha-1,8-diene	4.38	-	high

#### **Mobility in soil**

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

### Section 13. Disposal considerations

### **Disposal methods**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## **Section 14. Transport information**

	TDG Classification	DOT Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	UN1993	UN1993	UN1993
UN proper shipping name	-	-	FLAMMABLE LIQUIDS, N.O.S. (d-Limonene)	FLAMMABLE LIQUIDS, N.O.S. ( (d-Limonene)	FLAMMABLE LIQUIDS, N.O.S. (d-Limonene)
Transport hazard class(es)	-	-	3	3	3
Packing group	-	-	III	III	III
Environmental hazards	No.	No.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

### **Additional information**

**DOT Classification** : Limited quantity Yes.

ADR/RID : The environmentally hazardous substance mark is not required when transported in

sizes of  $\leq 5$  L or  $\leq 5$  kg. **Tunnel code** (D/E)

**IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

**IATA** : The environmentally hazardous substance mark may appear if required by other

transportation regulations.

Special precautions for user : Transport within user's premises: always transport in closed containers that are

upright and secure. Ensure that persons transporting the product know what to do in

the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and

the IBC Code

: Not available.

# Section 15. Regulatory information

### Canadian lists

Canadian NPRI : The following components are listed: 2-Butoxyethanol; D-Limonene

**CEPA Toxic substances**: The following components are listed: 2-butoxyethanol

**International regulations** 

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

**Stockholm Convention on Persistent Organic Pollutants** 

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)** 

### Section 15. Regulatory information

Not listed

#### **UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

### **Inventory list**

Australia : At least one component is not listed.

Canada : At least one component is not listed.

China : At least one component is not listed.

**Europe** : Not determined.

Japan inventory (ENCS): At least one component is not listed.

Japan inventory (ISHL): At least one component is not listed.

Malaysia : Not determined

New Zealand: At least one component is not listed.Philippines: At least one component is not listed.Republic of Korea: At least one component is not listed.Taiwan: All components are listed or exempted.

Thailand : Not determined.

Turkey : Not determined.

United States : All components are listed or exempted.

Viet Nam : Not determined.

### Section 16. Other information

**History** 

Date of printing : 12/27/2018

Date of issue/Date of : 12/27/2018

revision

Date of previous issue : No previous validation

Version : 1

**Key to abbreviations** : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships,

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

HPR = Hazardous Products Regulations

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 3	On basis of test data
SKIN IRRITATION - Category 2	Calculation method
EYE IRRITATION - Category 2A	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method

References : Not available.

▼ Indicates information that has changed from previously issued version.

**Notice to reader** 

### Section 16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the abovenamed supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.