



SAFETY DATA SHEET

Engine Cleaner

*Specializing in Professional
Automotive/Marine Appearance and
Reconditioning Products*

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product name: Engine Cleaner
Product Code(s): EC-1, EC-5, EC-55
Synonym(s): Aqueous alkaline mixture

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

General use: General purpose cleaner and degreaser for engines
Uses advised against: None known

1.3 Details of the supplier and of the safety data sheet

Manufacturer/Supplier
 CarKem Products, Inc.
 4275 Johns Parkway
 Sanford, FL 32771 USA
 +1-713-468-5846; +1-866-576-5846

1.4 Emergency telephone number: CHEMTREC, +1-800-424-9300

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Product definition: Mixture
Classification in accordance with 29 CFR 1910 (OSHA HCS) and Regulation EC No. 1272/2008
 Skin irritation - Category 2 [H315]
 Eye damage - Category 1 [H318]

2.2 Label elements

Hazard symbol(s):



GHS05



GHS07

Signal word: Danger

Hazard statement(s): H315 - Causes skin irritation
 H318 - Causes serious and eye damage

Precautionary statements:

[Prevention] P264 - Wash hands and other exposed skin areas thoroughly after handling.
 P280 - Wear protective gloves, protective clothing and eye protection.
[Response] P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
 P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
 P321 - Specific treatment: Call a POISON CENTER or doctor. Refer to Section 4 of this SDS.
 P332 + P313 - If skin irritation occurs: Get medical attention.
 P362 - Take off contaminated clothing and wash before reuse.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

May cause drying and cracking of the skin.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

% by Weight	Ingredient	CAS Number	EC Number	Index Number	GHS Classification
1 - 10	2-Butoxyethanol	111-76-2	203-905-0	607-006-00-8	H227, H302, H312, H315, H319, H332
1 - 5	Silicic Acid, Disodium Salt	6834-92-0	229-912-9	014-010-00-8	H290, H314, H335
0.1 - 2	Tetrapotassium Pyrophosphate	7320-34-5	230-785-7	-----	H319

There are no additional ingredients present in this product 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.

SECTION 4 - FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: If product mist or vapor causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Do not use mouth-to-mouth method if the victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If unconscious, maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If symptoms persist or if the victim feels unwell, seek medical attention.

Eyes: Immediately flush eyes with large amounts of water or saline solution for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after first 2 minutes and continue rinsing. Seek immediate medical attention, preferably from an ophthalmologist.

Skin: Flush skin with large amounts of water while removing contaminated clothing. Wash the affected area with soap and water followed by thorough rinsing. Wash contaminated clothing and shoes before reuse. If irritation persists, seek medical attention.

Ingestion: Rinse mouth with water if the victim is conscious. Remove dentures if present. Do not induce vomiting unless directed to do so by medical personnel. Vomiting may occur spontaneously. To prevent aspiration of material into the lungs, lay the victim on one side with the head lower than the waist. Never give anything by mouth to an unconscious or convulsing person. Do not leave the victim unattended. Seek immediate medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Eyes: Causes severe eye irritation and serious eye damage. Symptoms include redness, tearing, pain, blurred vision and possible burns. May cause conjunctivitis and corneal injury. Vapor or mist may cause eye irritation.

Skin: Causes skin irritation. Symptoms may include redness, itching, discomfort and scaling, drying and cracking of skin.

Inhalation: Inhalation of mist or vapor may cause respiratory irritation. Symptoms may include sore throat, cough, headache, chest tightness and breathing difficulty.

Ingestion: May be harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting, abdominal pain and diarrhea. May cause burns to the lips and mouth.

Chronic: Pre-existing disorders of the skin and respiratory system may be aggravated by exposure to this product. Chronic exposure to unprotected skin may cause drying and cracking of the skin and dermatitis. 2-Butoxyethanol is a known animal carcinogen. Refer to Section 11.2.

4.3 Indication of any immediate medical attention and special treatment needed

Advice to doctor and hospital personnel

Treat symptomatically and supportively.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable methods of extinction: Use extinguishing media suitable for the surrounding fire.

Unsuitable methods of extinction: None known.

5.2 Special hazards arising from the substance or mixture

Closed containers may rupture due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

Explosion hazards: This product is not considered an explosion hazard.

5.3 Advice to firefighters

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. Water contaminated by this material must be contained from being discharged to any waterway, sewer or drain to prevent environmental contamination.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel. Wear appropriate protective clothing and equipment designated in Section 8.2. Ventilate the area. Remove all sources of ignition. No smoking. Clean up spills immediately. Spills create a slip hazard.

6.2 Environmental precautions

Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways.

6.3 Methods and materials for containment and cleaning up

DO NOT flush large spills down the drain. Approach spill from upwind direction. Cover drains and contain spill. Cover spill with a large quantity of inert absorbent. Do not use combustible material such as sawdust. Collect material and place into an approved container for proper disposal.

Observe possible material restrictions (Sections 7.2 and 10.5). Do not allow material or runoff from rinsing contaminated areas to enter floor drains or storm drains and ditches that lead to waterways. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

For indications about waste treatment, see Section 13.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling

Wear all appropriate personal protective equipment specified in Section 8.2. Do not get in eyes or on skin or clothing. Do not inhale mist or vapor. No smoking. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear an appropriate respirator. Wash contaminated clothing and shoes thoroughly before reuse.

Advice on protection against fire and explosion

Keep away from heat and sources of ignition.

7.2 Conditions for safe storage, including any incompatibilities

Store in dry, cool, well-ventilated areas away from incompatible materials (see Section 10.5), food and drink. Transfer only to approved containers having correct labeling. Keep containers tightly closed when not in use. Protect containers against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Containers are hazardous when empty as they contain product residue. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Keep locked up and out of reach of children.

7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limit values

CAS Number	Ingredient	OSHA PEL	ACGIH TLV	NIOSH
111-76-2	2-Butoxyethanol	50 ppm; 240 mg/m ³ TWA	20 ppm; 97 mg/m ³ TWA; Skin	50 ppm; 24 mg/m ³ TWA 700 ppm IDLH; Skin

A "skin" notation following the inhalation exposure guideline refers to the potential for dermal absorption of the material, including eyes and mucous membranes, either by direct contact with vapors or by direct skin contact. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposure should be considered.

8.2 Exposure controls

Engineering measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1.

Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

Hygiene measures: Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking, smoking or using the lavatory.

Eye/face protection: Wear safety glasses with unperforated side shields or protective splash goggles during use.

Hand protection: Wear gloves made of Viton™ or those recommended by glove supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

Skin protection: Wear protective clothing. Wear protective boots if the situation requires.

Respiratory protection: Always use an approved respirator when vapor/aerosols exceed permissible exposure limits. Where risk assessment shows air-purifying respirators are appropriate use a half-mask respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Follow OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

Environmental exposure controls: Do not empty into drains.

PPE must not be considered a long-term solution to exposure control. PPE usage must be accompanied by employer programs to properly select, maintain, clean fit and use. Consult a competent industrial hygiene resource to determine hazard potential and/or the PPE manufacturers to ensure adequate protection



SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance Clear, light green liquid
Odor Characteristic

Odor Threshold	No data available
Molecular Weight	Not applicable
Chemical Formula	Not applicable
pH	11.5 - 12.5
Freezing/Melting Point	<0 °C (<32 °F)
Boiling Point, Initial	100 °C (212 °F)
Evaporation Rate	<1 [n-BuOAc = 1]
Flammability (solid, gas)	Not applicable
Flash Point	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Lower Explosive Limit (LEL)	No data available
Upper Explosive Limit (UEL)	No data available
Vapor Pressure	>1 [Air = 1]
Vapor Density	No data available
Specific Gravity	1.07
Viscosity	No data available
Solubility in Water	Miscible
Partition Coefficient (n-octanol/water)	No data available
Oxidizing Properties	Not applicable
Explosive Properties	Not applicable
Volatiles by Weight @ 21 °C	>85%

9.2 Other Data

None known

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

This material is stable under normal handling conditions and use.

10.2 Chemical Stability

This material is stable under recommended storage and handling conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4 Conditions to avoid

Avoid temperature extremes, contact with incompatible materials.

10.5 Incompatible materials

Strong oxidizing agents, strong acids, strong bases

10.6 Hazardous decomposition products

Thermal decomposition products may include oxides of carbon, potassium oxides, phosphorus oxides, sodium oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity

LD₅₀, rat: >17.84 g/kg [calculated]

Acute inhalation toxicity

Expected to have low acute inhalation toxicity.

Acute dermal toxicity

LD₅₀, rat: >31.21 g/kg [calculated]

Skin irritation

Causes skin irritation.

Eye irritation

Causes severe eye irritation and serious eye damage.

Sensitization

No data available

Genotoxicity

No data available

Mutagenicity

No data available

Specific organ toxicity - single exposure

May cause respiratory irritation.

Specific organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Further information

2-Butoxyethanol (CAS #111-76-2): IARC Group 3 carcinogen - *Not classifiable as to its carcinogenicity to humans*. Not listed as a carcinogen by ACGIH, NTP or OSHA. In long-term animal studies with 2-butoxyethanol, small but statistically significant increases in tumors were observed in mice but not rats. The effects are not believed to be relevant to humans. In animals, hemolysis (red blood cell breakage) and secondary effects to the kidneys and liver have been reported. Human red blood cells have been shown to be significantly less sensitive to hemolysis than those of rodents and rabbits.

2-Butoxyethanol inhalation exposure in laboratory animals has been found to reduce body weight gain and food consumption in addition to hemolysis. After exposure was discontinued, these effects in animals disappeared. Adverse reproductive or birth effects were not reported in animals except when exposures were high enough to cause significant maternal toxicity.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12 - ECOLOGICAL INFORMATION**12.1 Toxicity**

Large releases or spills may be harmful to aquatic life and the environment. 2-Butoxyethanol is harmful to algae or higher aquatic plants.

12.2 Persistence and degradability

The biodegradability of this product has not been evaluated. While the alkalinity of this product is readily reduced in natural waters, the resulting phosphate may persist indefinitely or incorporate into biological systems.

12.3 Bioaccumulation potential

No data available

12.4 Mobility in soil

The mobility of this product in soil is expected to be high.

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other effects**Additional ecological information**

Do not allow material to enter surface waters, wastewater or soil.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13 - DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

Methods of disposal: The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Disposal of surplus and non-recyclable products should always comply with the requirements of environmental protection and in accordance with federal, state and local waste disposal regulations. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

RCRA F-Series: No listings above the reportable threshold (de minimis)

RCRA U-Series: No listings above the reportable threshold (de minimis)

SECTION 14 - TRANSPORT INFORMATION

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

NOT REGULATED FOR TRANSPORT

SECTION 15 - REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for substance or mixture****U. S. Federal Regulations**

OSHA Hazard Communication Standard: This material is classified as hazardous in accordance with OSHA 29 CFR 1910-1200.

OSHA Process Safety Management Standard: This product is not regulated under OSHA PSM Standard 29 CFR 1910.119.

EPA Risk Management Planning Standard: This product is not regulated under EPA RMP Standard (RMP) 40 CFR Part 68.

EPA Federal Insecticide, Fungicide and Rodenticide Act: This product is not a registered Pesticide under the FIFRA, 40 CFR Part 150.

Toxic Substance Control Act (TSCA) Inventory: All substances in this product are listed on the TSCA Inventory. This product is not subject to TSCA 12(b) Export Notification.

Drug Enforcement Administration (DEA) List 2, Essential Chemicals (21 CFR 1310.02(b)) and 1310.4(f)(2)) and Chemical Code Number:
No listings

Drug Enforcement Administration (DEA) Lists 1 & 2, Exempt Chemical Mixtures (21 CFR 1310.12(c)) and Code Number: No listings

Department of Homeland Security (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) Chemicals: No listings

Superfund Amendments and Reauthorization Act (SARA)

SARA Section 311/312 Hazard Categories: Acute Health Hazard; Chronic Health Hazard

SARA 313 Information: 2-Butoxyethanol (SARA code N230) is subject to the reporting levels established by Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.

SARA 302/304 Extremely Hazardous Substance: None of the components of this product are subject to the reporting levels established by these sections of Title III of SARA.

SARA 302/304 Emergency Planning & Notification: None of the components of this product are subject to the reporting levels established by these sections of Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): This product contains no CERCLA reportable substances.

Clean Air Act (CAA)

This product does not contain any Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b).

This product does not contain Class 1 ozone depleters.

This product does not contain Class 2 ozone depleters.

Clean Water Act (CWA)

2-Butoxyethanol (EDF-109) is a Hazardous Substance listed under the CWA.

This product does not contain Priority Pollutants.

This product does not contain Toxic Pollutants.

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

This product contains no chemical(s) known to the state of California to cause cancer birth defects or reproductive harm in concentrations that exceed the threshold (de minimis) reporting levels established under Proposition 65.

Other U.S. State Inventories

2-Butoxyethanol (CAS #111-76-2) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: CA, MN, PA, RI, WI.

Canada

WHMIS Hazard Classification

Causes skin irritation and eye damage

Canadian National Pollutant Release Inventory (NPRI): 2-Butoxyethanol (CAS #111-76-2) is listed on the NPRI.

European Economic Community

WGK, Germany (Water danger/protection): 1 (low hazard to waters)

Global Chemical Inventory Lists

Country	Inventory Name	Listed
Canada	Domestic Substance List (DSL)	Yes
Canada	Non-Domestic Substance List (NDSL)	No
Europe	Inventory of New and Existing Chemicals (EINECS)	Yes
United States	Toxic Substance Control Act (TSCA)	Yes
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (KECI)	Yes
Philippines	Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*Yes - All components of this product comply with the inventory requirements administered by the governing country.

No - One or more components of this product are not on the inventory or are exempt from listing.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)

HEALTH		2
FLAMMABILITY		0
PHYSICAL HAZARD		0
PERSONAL PROTECTION		C

C = safety glasses, gloves & apron

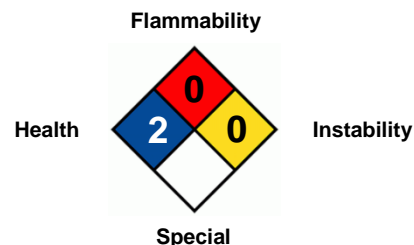
HMIS Hazard Rating Legend

0 = Minimal 1 = Slight 2 = Moderate
3 = Serious 4 = Severe
* = Chronic Health Hazard

NFPA Hazard Rating Legend

0 = Insignificant 1 = Slight 2 = Moderate
3 = High 4 = Extreme

National Fire Protection Association (NFPA)



Full Text of GHS Hazard Phrases Referenced in Section 3 (not covered in Section 2)

H227 - Combustible liquid	H312 - Harmful in contact with skin
H290 - May be corrosive to metals	H314 - Causes severe skin burns and eye damage
H302 - Harmful if swallowed	H332 - Harmful if inhaled

H335 - May cause respiratory irritation

Abbreviation Key

<p>ACGIH American Conference of Governmental Industrial Hygienists</p> <p>ADR Accord Dangereux Routier (European regulations concerning the international transport of dangerous goods by road)</p> <p>CAS Chemical Abstract Services</p> <p>CFR Code of Federal Regulations</p> <p>COC Cleveland Open Cup</p> <p>DOT Department of Transportation</p> <p>EC₅₀ Half maximal effective concentration</p> <p>EMS Emergency Response Procedures for Ships Carrying</p> <p>EPA Environmental Protection Agency</p> <p>ErC₅₀ Reduction of Growth Rate</p> <p>ERG Emergency Response Guide Book</p> <p>FDA Food and Drug Administration</p> <p>GHS Globally Harmonized System of Classification and Labelling of Chemicals (GHS)</p> <p>HCS Hazard Communication Standard</p> <p>IARC International Agency for Research on Cancer</p> <p>IATA International Air Transport Association</p> <p>IC₅₀ Half Maximal Inhibitory Concentration</p> <p>ICAO International Civil Aviation Organization</p> <p>IDLH Immediately Dangerous to Life and Health</p> <p>IMDG International Maritime Dangerous Goods</p> <p>IMO International Maritime Organization</p> <p>LC₅₀ 50% Lethal Concentration</p> <p>LD₅₀ 50% Lethal Dose</p>	<p>LD_{Lo} Lowest Lethal Dose</p> <p>mppcf Millions of Particles Per Cubic Foot</p> <p>NA North America</p> <p>NAERG North American Emergency Response Guide Book</p> <p>NIOSH National Institute for Occupational Safety & Health</p> <p>NTP National Toxicology Program</p> <p>OSHA Occupational Safety and Health Administration</p> <p>PBT Persistent, Bioaccumulating and Toxic</p> <p>PEL Permissible exposure limit</p> <p>PMCC Pensky-Martens Closed Cup</p> <p>ppm Parts Per Million</p> <p>RCRA Resource Conservation and Recovery Act</p> <p>RID Dangerous Goods by Rail</p> <p>RQ Reportable Quantity</p> <p>TCC/Tag Tagliabue Closed Cup</p> <p>TLV Threshold Limit Value</p> <p>TSCA Toxic Substance Control Act</p> <p>TWA Time-weighted Average</p> <p>UN United Nations</p> <p>VOC Volatile Organic Compounds</p> <p>vPvB Very Persistent and Very Bioaccumulating</p> <p>WHMIS Workplace Hazardous Materials Information System</p>
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DISCLAIMER OF RESPONSIBILITY

The information herein is given in good faith and is believed to be accurate and correct; however, no warranty, expressed or implied, is made. CarKem Products, Inc. assumes no responsibility for personal injury or property damage that may arise from the use of this material since the conditions of handling and use are beyond our control. It is the responsibility of the user to determine the suitability of this information for the adoption of the safety precautions as may be necessary. It is the responsibility of the user to comply with all Federal, State and local laws and regulations regarding use of this product. Vendees or users assume all risks associated with the use of this material. We reserve the right to revise Safety Data Sheets from time to time as new technical information becomes available. The user has the responsibility to contact the company to make sure that the Safety Data Sheet is the latest issue.

Revision date: 18 June 2019, Version 3

Supersedes SDS dated: 07 May 2014, Version 2

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