

SAFETY DATA SHEET Citra-Solve

Specializing in Professional Automotive/Marine Appearance and Reconditioning Products

Citrus Cleaner & Degreaser

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product name: Citra-Solve Synonym(s): Terpene/solvent blend

Product code(s): CSOL-1, CSOL-5, CSOL-55

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

General use: General purpose cleaner and degreaser

Uses advised against: None known

1.3 Details of the supplier and of the safety data sheet

Manufacturer/Distributor 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

Flammable Liquid - Category 3 [H226] Skin Irritation - Category 2 [H315] Sensitizer, Skin - Category 1 [H317] Eye Damage - Category 1 [H318]

Aquatic Toxicity, Chronic - Category 2 [H410]

2.2 Label elements

Hazard symbol(s):







Signal word: Danger

Hazard statement(s): H226 - Flammable liquid and vapor

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction H318 - Causes serious eye damage

H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements:

[Prevention] P210 - Keep away from heat, open flames and hot surfaces. No smoking.

P233 - Keep container tightly closed.

P240 - Ground and bond container and receiving equipment.

P241 + P242 - Use explosion proof electrical, ventilating and lighting equipment. Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

P261 - Avoid breathing spray, mist and vapor.

P264 - Wash hands and other exposed skin areas thoroughly after handling. P272 - Contaminated work clothing should not be allowed out of the workplace.

P273 - Avoid release to the environment

P280 - Wear protective gloves, protective clothing and eye protection.

[Response] P303 + P361 + P353 - IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water or

shower.

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 + P312 - Specific treatment: Get medical attention if you feel unwell. Refer to Section 4 of this SDS.

P333 + P313 - If skin irritation or rash occurs: Get medical attention. P362 - Take off contaminated clothing and wash before reuse.

P370 + P378 - In case of fire: Use water fog, foam, dry chemical or carbon dioxide for extinction.

P391 - Collect spillage.

P403 + P235 - Store in a well-ventilated place. Keep cool. [Storage]

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

Repeated exposure may cause skin dryness or cracking.

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
< 60	d-Limonene	5989-27-5	227-813-5	601-029-00-7	H226, H315, H317, H410
< 25	Nonylphenol, ethoxylated	127087-87-0	500-135-8		H315, H318, H411
< 20	2-Butoxyethanol	111-76-2	203-905-0	603-014-00-0	H227, H302, H312, H315,
					H319, H332

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with the applicable provisions of paragraph (i).

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. 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. If irritation persists seek 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 may include inflammation, swelling, pain, tearing and blurred vision. May cause moderate corneal injury. Vapor or mist may cause eye irritation.

Skin: Causes skin irritation with localized redness, rash, itching and discomfort. May cause an allergic skin reaction in susceptible individuals. Prolonged contact with unprotected skin may cause defatting of the skin and dermatitis. May be harmful if absorbed through the skin.

Inhalation: May cause respiratory irritation with headache, cough and shortness of breath. May cause an allergic asthma-like response in some individuals. May be harmful if inhaled.

Ingestion: Causes irritation of the digestive tract with nausea, vomiting, abdominal pain and diarrhea. May cause dizziness, drowsiness, weakness, fatigue, headache and unconsciousness. May cause central nervous system depression. This material can get into the lungs during swallowing or vomiting causing lung inflammation and chemical pneumonitis, which may be fatal. Symptoms of aspiration into the lungs include coughing, gasping, choking, shortness of breath, bluish colored skin, rapid breathing and rapid heart rate. May cause hemolysis and affect the liver and kidneys.

Chronic: Individuals with pre-existing skin conditions and respiratory disorders may be more susceptible to the effects of this product. Prolonged or repeated skin contact may cause drying and cracking of the skin, dermatitis or aggravate existing skin conditions. May cause an allergic skin reaction. May have a deleterious effect on pre-existing respiratory disorders such as asthma and may cause respiratory sensitization. 2-Butoxy-ethanol may be a human 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.

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Unsuitable methods of extinction: None known

5.2 Special hazards arising from the substance or mixture

Flammable liquid and vapor! Vapors are heavier than air and can travel along the ground to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. Closed containers may explode 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: Avoid sources of ignition. Vapors may form an explosive mixture with air in confined spaces.

5.3 Advice to firefighters

Firefighters should wear full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. Be aware that burning liquid may float on water. Firefighters must control runoff to prevent environmental contamination. Notify appropriate authorities of potential fire and explosion hazard if liquid enters sewers or waterways.

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. Use water sparingly to minimize environmental contamination and reduce disposal requirements.

6.3 Methods and materials for containment and cleaning up

DO NOT FLUSH 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 using non-sparking tools 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.

In the USA discharges or spills of material on waters of the United States, their adjoining shorelines or into conduits leading to surface waters must be reported to the National Response Center at 800-424-8802.

6.4 Reference to other sections

See Section 13 for additional waste treatment information.

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. Open containers slowly to control possible pressure release. Wash contaminated clothing and shoes thoroughly before reuse.

Advice on protection against fire and explosion

Keep away from heat, hot surfaces 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. Keep away from heat, ignition sources and hot surfaces. 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 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/m³ 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.

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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.

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 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 orange colored liquid

Odor Citrus

Odor Threshold

Molecular Weight
Chemical Formula
pH
6.0 - 8.0
Freezing/Melting Point
200 ppb (d-limonene)
Not applicable
6.0 - 8.0
No data available

Boiling Point Range 154 - 250 °C (310 - 482 °F)

Evaporation Rate
No data available
Flammability (solid, gas)
Not applicable

Flash Point > 46 °C (> 115 °F) [estimated]

Autoignition TemperatureNo data availableDecomposition TemperatureNo data availableLower Explosive Limit (LEL)No data availableUpper Explosive Limit (UEL)No data availableVapor PressureNo data availableVapor DensityNo data available

Specific Gravity 0.9145 - 0.9245 [calculated]

Viscosity No data available

Solubility in Water Miscible

Partition Coefficient (n-octanol/water) log Pow = 0.81 - 6.0
Oxidizing Properties Not applicable
Explosive Properties Not applicable
Volatiles by Weight @ 21 °C > 80%

9.2 Other Data

No data available

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SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

No special reactivity has been reported during normal conditions of handling 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, sources of ignition, hot surfaces, contact with incompatible materials

10.5 Incompatible materials

Strong oxidizing agents, bleaching agents, acids, bases, alkalis, amines, reducing agents

10.6 Hazardous decomposition products

Thermal decomposition products may include oxides of carbon, hydrocarbons and hydrocarbon fragments.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity

LD₅₀, rat: > 4,651 mg/kg [calculated]

Acute inhalation toxicity

 LC_{50} , rat: > 45.9 mg/m³, 4 h [calculated]

Acute dermal toxicity

LD₅₀, rabbit: > 4,016 mg/kg [calculated]

Skin irritation

Causes skin irritation.

Eye irritation

Causes severe eye irritation and serious eye damage.

Sensitization

May cause an allergic skin reaction.

Genotoxicity in vitro

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

May be fatal if swallowed and enters the airways.

11.2 Further information

Terpene Hydrocarbons (CAS #5989-27-5): IARC, Group 3 carcinogen - *Not classifiable as to its carcinogenicity to humans*. Not listed as a carcinogen by ACGIH, NTP or OSHA.

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.

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. 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.

No data is available regarding the mutagenicity or teratogenicity of this product, nor is there any available data that indicates that it causes adverse developmental or fertility effects.

Handle in accordance with good industrial hygiene and safety practice.

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SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

This product is very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

This product is expected to biodegrade over time.

12.3 Bioaccumulation potential

d-Limonene and terpene hydrocarbons have the potential to bioaccumulate.

12.4 Mobility in soil

No data available

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

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 via a licensed pharmaceutical waste contractor and in accordance with FDA and DEA regulations. Avoid dispersal of spilt 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.

A flammable liquid with a flash point at or above 38 °C (100 °F) that does not meet the definition of any other hazard class may be reclassified as a combustible liquid. This provision does not apply to transportation by vessel or aircraft, except where other means of transportation are impracticable.

May be reclassified as not regulated for transport in non-bulk packages having a maximum capacity less than or equal to 450 liters (119 gallons).

Limited quantity for flammable liquids Packing Group III when inner packagings are not over 5.0 liters (1.3 gallons) net capacity each, packed in a strong outer packaging.

USA DOT (Ground Transportation) - Bulk and Non-bulk

Proper Shipping Name Combustible liquid, n.o.s. (Terpene hydrocarbons, 2-Butoxyethanol)

 Hazard Class
 Comb liq

 UN/NA
 NA1993

 Packing Group
 III

 NEAREG
 Guide #128

Packaging Authorization Non-Bulk: 49 CFR 173.203; Bulk: 173.241

Packaging Exceptions 49 CFR 173.150

IMO/IMDG (Water Transportation)

Proper Shipping Name Flammable liquids, n.o.s. (Terpene hydrocarbons, 2-Butoxyethanol)

 Hazard Class
 3

 UN/NA
 UN1993

 Packing Group
 III

 Marine Pollutant
 YES

 EMS Number
 F-E, S-E

ICAO/IATA (Air Transportation)

Proper Shipping Name Flammable liquids, n.o.s. (Terpene hydrocarbons, 2-Butoxyethanol)

Hazard Class 3 UN/NA UN1993 Packing Group III

Quantity Limitations 49 CFR 175.27 and 175.75 - Cargo Aircraft Only: 220 l; Passenger Aircraft: 60 l

Drum Label(s)



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RID/ADR (Rail Transportation)

Proper Shipping Name Flammable liquids, n.o.s. (Terpene hydrocarbons, 2-Butoxyethanol)

UN/NA UN1993

Packing Group III
Hazard Class 3

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.

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 Not listed

Drug Enforcement Administration (DEA) Lists 1 & 2, Exempt Chemical Mixtures (21 CFR 1310.12(c)) and Code Number: Not listed

Department of Homeland Security (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) Chemicals: Not listed

Superfund Amendments and Reauthorization Act (SARA)

SARA Section 311/312 Hazard Categories: Fire Hazard, Acute Health Hazard, Chronic Health Hazard

SARA 313 Information: Glycol Ethers (SARA code N230) are 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 exceed the threshold (de minimis) reporting levels established by these sections of Title III of SARA.

SARA 302/304 Emergency Planning & Notification: None of the components of this product exceed the threshold (de minimis) reporting levels established by these sections of Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): This product contains the following CERCLA reportable substance(s): Glycol Ethers - There is no RQ assigned to this broad class, although the class is a CERCLA hazardous substances. Refer to 50 Federal Register 13456 (April 4, 1985).

Clean Air Act (CAA)

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

This product does not contain Class 1 ozone depletors.

This product does not contain Class 2 ozone depletors.

Clean Water Act (CWA)

Glycol Ethers (EDF-109) are Hazardous Substances listed under the CWA.

This product does not contain any Priority Pollutants.

This product does not contain any 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

Flammable liquid and vapor. Causes skin irritation and serious eye damage. May cause an allergic skin reaction.

Canadian National Pollutant Release Inventory (NPRI): Terpenes (all isomers) and 2-Butoxyethanol listed on the NPRI.

European Economic Community

WGK, Germany (Water danger/protection): 3 (severe hazard to waters)

15.2 Chemical safety assessment

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

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SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)



C = safety glasses, gloves and an 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
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H312 - Harmful in contact with skin
H313 - Harmful in contact with skin
H314 - Toxic to aquatic life with long lasting effects

Abbreviation Key

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

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.

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