



**SAFETY DATA SHEET**  
**K-411 Green Kleen**  
All Purpose Citrus Cleaner

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

**SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION**

**1.1 Product identifier**

**Product name:** K-411 Green Kleen  
**Synonym(s):** None known  
**Product code(s):** K-411-1, K-411-5

**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**  
Skin Irritation - Category 2 [H315]  
Sensitizer, Skin - Category 1 [H317]  
Eye Damage - Category 2A [H319]  
Aquatic Toxicity, Chronic - Category 3 [H412]

**2.2 Label elements**

**Hazard symbol(s):**



GHS07

**Signal word:** Danger

**Hazard statement(s):** H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H412 - Harmful to aquatic life with long lasting effects

**Precautionary statements:**

**[Prevention]**

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.

**[Response]**

P280 - Wear protective gloves, protective clothing and eye protection.  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P321 + P312 - Specific treatment: Get medical attention if you feel unwell. Refer to Section 4 of this SDS.  
P333 + P337 + P313 - If skin irritation or rash occurs or if eye irritation persists: Get medical attention.  
P362 - Take off contaminated clothing and wash before reuse.

**[Storage]**

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

**[Disposal]**

P501 - Dispose of contents and containers in accordance with national and local regulations.

**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                 |
|-------------|-----------------------------|-------------|-----------|--------------|------------------------------------|
| <10         | d-Limonene                  | 5989-27-5   | 227-813-5 | 601-029-00-7 | H226, H315, H317, H410             |
| <5          | Silicic Acid, Disodium Salt | 6834-92-0   | 229-912-9 | 014-010-00-8 | H290, H314, H335                   |
| <5          | Nonylphenol, Ethoxylated    | 127087-87-0 | 500-135-8 | -----        | H315, H318, H411                   |
| <5          | 2-Butoxyethanol             | 111-76-2    | 203-905-0 | 603-014-00-0 | H227, H302, H312, H315, H319, H332 |
| <2          | Proprietary Surfactant      | -----       | -----     | -----        | H318, H411                         |
| <1          | Potassium Hydroxide         | 1310-58-3   | 215-181-3 | 019-002-00-8 | H302, H314                         |

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 serious eye irritation. Symptoms may include inflammation, swelling, pain, tearing and blurred vision. 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.

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

**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-Butoxyethanol 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.

**Unsuitable methods of extinction:** None known

### 5.2 Special hazards arising from the substance or mixture

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:** Not expected to be a fire or 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 build-up and possible autoignition or explosion when exposed to extreme heat. Firefighters should control run-off water 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. Spill 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 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 <sup>3</sup> TWA | 20 ppm; 97 mg/m <sup>3</sup> TWA; Skin | 50 ppm; 24 mg/m <sup>3</sup> TWA<br>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 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

|                                                |                                |
|------------------------------------------------|--------------------------------|
| <b>Appearance</b>                              | Clear, green colored liquid    |
| <b>Odor</b>                                    | Citrus                         |
| <b>Odor Threshold</b>                          | 200 ppb (d-limonene)           |
| <b>Molecular Weight</b>                        | Not applicable                 |
| <b>Chemical Formula</b>                        | Not applicable                 |
| <b>pH</b>                                      | 10.3 - 10.9                    |
| <b>Freezing/Melting Point</b>                  | No data available              |
| <b>Initial Boiling Point</b>                   | 100 °C (212 °F)                |
| <b>Evaporation Rate</b>                        | No data available              |
| <b>Flammability (solid, gas)</b>               | Not applicable                 |
| <b>Flash Point</b>                             | >93.3 °C (>200 °F) [estimated] |
| <b>Autoignition Temperature</b>                | No data available              |
| <b>Decomposition Temperature</b>               | No data available              |
| <b>Lower Explosive Limit (LEL)</b>             | No data available              |
| <b>Upper Explosive Limit (UEL)</b>             | No data available              |
| <b>Vapor Pressure</b>                          | No data available              |
| <b>Vapor Density</b>                           | No data available              |
| <b>Specific Gravity</b>                        | 1.0125 - 1.0135 [calculated]   |
| <b>Viscosity</b>                               | No data available              |
| <b>Solubility in Water</b>                     | Miscible                       |
| <b>Partition Coefficient (n-octanol/water)</b> | No data available              |
| <b>Oxidizing Properties</b>                    | Not applicable                 |
| <b>Explosive Properties</b>                    | Not applicable                 |
| <b>Volatiles by Weight @ 21 °C</b>             | >90%                           |

### 9.2 Other Data

No data available

## 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

### 10.6 Hazardous decomposition products

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

## SECTION 11 - TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute oral toxicity

Expected to have low acute oral toxicity.

#### Acute inhalation toxicity

Expected to have low acute inhalation toxicity.

#### Acute dermal toxicity

Expected to have low acute dermal toxicity.

#### Skin irritation

Causes skin irritation.

#### Eye irritation

Causes serious eye irritation.

#### Sensitization

May cause sensitization and allergic skin reactions in susceptible individuals.

#### Genotoxicity in vitro

No data available

#### Mutagenicity

No data available

#### Specific organ toxicity - single exposure

No data available

#### Specific organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available

### 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.

## SECTION 12 - ECOLOGICAL INFORMATION

### 12.1 Toxicity

This product is harmful 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 spill 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.

**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 depleters.

This product does not contain Class 2 ozone depleters.

#### **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.

## SECTION 16 - OTHER INFORMATION

### Hazardous Material Information System (HMIS)

|                     |   |
|---------------------|---|
| HEALTH              | 2 |
| FLAMMABILITY        | 1 |
| PHYSICAL HAZARD     | 0 |
| PERSONAL PROTECTION | C |

C = safety glasses, gloves and an apron

### HMIS Hazard Rating Legend

0 = Minimal 1 = Slight 2 = Moderate

3 = Serious 4 = Severe

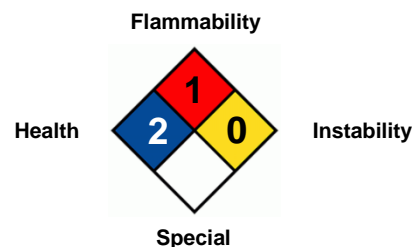
\* = Chronic Health Hazard

### 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)

H226 - Flammable liquid and vapor

H227 - Combustible liquid

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H410 - Very toxic to aquatic life with long lasting effects

H411 - Toxic to aquatic life with long lasting effects

### Abbreviation Key

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

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Revision date: 20 August 2019, Version 3

Supersedes SDS dated: 20 April 2016, Version 2

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