

### SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifier

**Product name:** Crystal Clear Line Cleaner  
**Product code:** Crystal Clear Line Cleaner  
**Synonym(s):** Aqueous acetic acid solution

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

**General use:** Lagoon line cleaner  
**Uses advised against:** None specified

#### 1.3 Details of the supplier and of the safety data sheet

<b>Manufactured by</b> The Bullen Companies 1640 Delmar Drive Folcroft, PA 19032 USA +1-800-444-8900	<b>Manufactured for</b> Ag ProVision, LLC 277 Faison McGowan Road Kenansville, NC 28349 USA +1-910-296-0302 customercare@agprovision.com
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#### 1.4 Emergency telephone number

In the continental USA call CHEMTREC: +1-800-424-9300 (24 hours)  
 Outside the continental USA call CHEMTREC: +1-703-527-3887 (24 hours)

### 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 4 [H227]  
 Skin corrosion - Category 1A [H314]

#### 2.2 Label elements

**Hazard symbol(s):**



GHS05

**Signal word:** **Danger**

**Hazard statement(s):** H227 - Combustible liquid  
 H314 - Causes severe skin burns and eye damage

#### Precautionary statements

<b>[Prevention]</b>	P210 - Keep away from heat, open flames and hot surface. No smoking. P260 - Do not breathe mist or vapor. P264 - Wash hands and other exposed skin areas thoroughly after handling. P280 - Wear protective gloves, protective clothing and eye protection.
<b>[Response]</b>	P301 + P330 + P331 + P310 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor. P303 + P361 + P353 + P310 - IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or doctor. P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor. 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: Immediately call a POISON CENTER or doctor. Refer to Section 4 of this SDS. P363 - Wash contaminated clothing before reuse P370 + P378 - In case of fire: Use water fog, foam, dry chemical or carbon dioxide for extinction.
<b>[Storage]</b>	P405 + P403 + P235 - Store locked up in a well-ventilated place. Keep cool.
<b>[Disposal]</b>	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
40 - 60	Acetic Acid	64-19-7	200-580-7	607-002-00-6	H226, H314

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 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. Seek medical attention for chemical burns. If irritation persists or if the victim feels unwell, seek medical attention.

**Ingestion:** Rinse mouth with water if the victim is conscious. Remove dentures if present. Give 1 - 2 cupfuls of milk or water to drink if victim is conscious, alert and able to swallow. 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 redness, swelling, pain, tearing, burns and blurred vision. Direct contact with eye can cause severe and permanent eye damage. Risk of blindness! Vapor or mist can cause severe eye irritation and eye damage.

**Skin:** Causes severe skin irritation and burns. Symptoms may include localized redness, itching, pain and burns. Contact with unprotected skin may cause blackening and hyperkeratosis of the skin. Prolonged and repeated contact with unprotected skin may cause drying and cracking of the skin and dermatitis. May be harmful if absorbed through the skin.

**Inhalation:** Harmful if inhaled. Vapor or mist can cause severe irritation of and burns to the respiratory system. Symptoms may include severe irritation of the nose, throat, headache, cough, sore throat, chest tightness and breathing difficulty. Prolonged inhalation may cause burns to the respiratory tract and absorption of harmful amounts of acetic acid through the lungs.

**Ingestion:** Harmful if swallowed. Causes severe gastrointestinal tract irritation with severe abdominal pain, nausea, vomiting, diarrhea and shock. Causes burns to the lips, mouth and gastro-intestinal tract. May cause severe and permanent damage to the digestive tract. May cause polyuria, oliguria and anuria. Rapidly absorbed from the gastrointestinal tract. May cause damage to the digestive tract.

**Chronic:** Persons with pre-existing skin disorders or impaired respiratory function may be more susceptible to the effects of this material. Chronic exposure to acetic acid may cause erosion of dental enamel, bronchitis, pharyngitis, eye irritation, darkening of the skin and chronic inflammation of the respiratory tract. Acetic acid can cause occupational asthma.

### 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:** No data available

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

Combustible liquid at high temperatures. 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 material is not considered to be 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. If possible, water contaminated by this material should 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. Use water sparingly to minimize environmental contamination and reduce disposal requirements.

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

Approach spill from upwind direction. Cover drains and contain spill. DO NOT flush spills down the drain. Cover spill with a large quantity of non-combustible, inert absorbent. Do not use combustible materials 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). Clean contaminated area with soap and water. 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 material via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

### 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 breathe 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 incompatible materials.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in dry, well-ventilated areas away from incompatible materials (see Section 10.5), food and drink. Keep from freezing. Transfer only to approved containers having correct labeling. Keep container tightly closed when not in use. Protect containers from 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 residues. 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
67-19-7	Acetic Acid	10 ppm; 25 mg/m <sup>3</sup> TWA	10 ppm; 25 mg/m <sup>3</sup> TWA 15 ppm; 37 mg/m <sup>3</sup> STEL	10 ppm; 25 mg/m <sup>3</sup> TWA 15 ppm; 37 mg/m <sup>3</sup> STEL; 50 ppm IDLH

### 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

Appearance	Clear, red liquid
Odor	Pungent, vinegar-like
Odor Threshold	2 ppm (acetic acid)
Molecular Weight	Not applicable
Chemical Formula	Not applicable
pH	2.3 - 2.5
Melting Point	- 22.8 °C (- 9 °F)
Boiling Point	117.8 °C (244 °F)
Evaporation Rate	< 1 [n-BuOAc = 1]
Flammability (solid, gas)	Not applicable
Flash Point	91.1 °C (196 °F)
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	No data available
Vapor Density	> 1 [Air = 1]
Specific Gravity	1.0915 - 1.0925213
Viscosity	No data available
Solubility in Water	Complete
Partition Coefficient (n-octanol/water)	No data available
Oxidizing Properties	Not applicable
Explosive Properties	Not applicable
Volatiles by Weight @ 21 °C	99%

### 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 conditions of storage and handling.

### 10.3 Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4 Conditions to avoid

Temperature extremes, incompatible materials

### 10.5 Incompatible materials

Strong oxidizing agents, acids, metals, amines, carbonates, phosphates, caustics, bases, permanganates, peroxides, acid anhydrides

### 10.6 Hazardous decomposition products

Thermal decomposition products include oxides of carbon, irritating and toxic fumes and gases.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute oral toxicity

LD<sub>50</sub>, rat: > 5,000 mg/kg [calculated]

#### Acute inhalation toxicity

LC<sub>50</sub>, mouse: 2,509 ppm [calculated]

#### Acute dermal toxicity

LD<sub>50</sub>, rabbit: 1,893 µl/kg [calculated]

**Skin irritation**

Causes severe skin irritation and burns.

**Eye irritation**

Causes serious eye damage. Risk of blindness!

**Sensitization**

No data available

**Carcinogenicity**

No data available

**Germ cell mutagenicity**

No data available

**Reproductive toxicity**

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**

This product contains no substances present at levels greater than or equal to the 0.1% threshold (de minimis) that are identified as a probable, possible, potential or confirmed carcinogens by ACGIH, IARC, NTP or OSHA. No data is available regarding the mutagenicity or teratogenicity of this product, nor is there any available data that indicates it causes adverse developmental or fertility effects.

Handle in accordance with good industrial hygiene and safety practice.

**SECTION 12 - ECOLOGICAL INFORMATION****12.1 Toxicity**

Large discharges or spills of Acetic Acid may decrease the pH of aquatic systems to a value <2, which may be fatal to aquatic life and soil micro-organisms.

**Toxicity to fish:**

LC<sub>50</sub> - Lepomis macrochirus (Bluegill/Sunfish), 96 h: 75 mg/l

LC<sub>50</sub> - Pimephales promelas (Fathead minnow), static, 96 h: 88 mg/l

**Toxicity to aquatic invertebrates:**

LC<sub>50</sub> - Daphnia magna (Water flea), 24 - 48 h: 32 - 47 mg/l

**Toxicity to aquatic plants:**

IC<sub>50</sub> - Scenedesmus quadricauda (Green algae), 16 h: 4,000 mg/l

**12.2 Persistence and degradability**

This material is readily biodegradable.

**12.3 Bioaccumulation potential**

This material will not bioaccumulate.

**12.4 Mobility in soil**

When spilled on soil, acetic acid will spread on the surface and penetrate into the soil at a rate dependent on the soil type and its water content.

**12.5 Results of PBT and vPvB assessment**

This material is not persistent, bioaccumulative and toxic (PBT) and not very persistent and very bioaccumulative (vPvB).

**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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should always comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. 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) information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

*Limited quantity for corrosive materials in Packing Group II when inner packagings are not over 1.0 liter (0.3 gallon) net capacity each, packed in a strong outer packaging.*

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

**Proper Shipping Name** Acetic Acid Solution  
**Hazard Class** 8  
**UN** UN2790  
**Packing Group** II  
**NAREG** Guide #153  
**Packaging Authorization** Non-Bulk: 49 CFR 173.202; Bulk: 173.242  
**Packaging Exceptions** 49 CFR 173.154

**Drum Label(s)**



### IMO/IMDG (Water Transportation)

**Proper Shipping Name** Acetic Acid Solution  
**Hazard Class** 8  
**UN** UN2790  
**Packing Group** II  
**Marine Pollutant** No  
**EMS Number** F-A, S-B

### ICAO/IATA (Air Transportation)

**Proper Shipping Name** Acetic Acid Solution  
**Hazard Class** 8  
**UN** UN2790  
**Packing Group** II  
**Quantity Limitations** 49 CFR 175.27 and 175.75 - Cargo Aircraft Only: 30 l; Passenger Aircraft: 1 l

### RID/ADR (Rail Transportation)

**Proper Shipping Name** Acetic Acid Solution  
**Hazard Class** 8  
**UN** UN2790  
**Packing Group** II

## 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 material 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:** Causes severe skin burns and eye damage

**SARA 313 Information:** None of the chemicals in this product 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:  
Acetic Acid (CAS #64-19-7): RQ = 2,267.96 kg (5,000 lb)

### 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)

Acetic Acid (CAS #64-19-7) is a Hazardous Substance 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

Acetic Acid (CAS #64-19-7) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: CA, DE, FL, ID, MA, MN, NC, NJ, NY, PA, RI, WA, WI.

### Canada

#### WHMIS Hazard Classification:

Causes skin burns and eye damage

Harmful if swallowed

Corrosive to the respiratory tract

**Canadian National Pollutant Release Inventory (NPRI):** None of the substances in this product are listed on the NPRI.

### European Economic Community

**WGK, Germany (Water danger/protection):** 1 (slightly hazardous to water)

### 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	3
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	C

C = safety glasses, gloves,  
& 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)

#### Flammability



### 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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