



## Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

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### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

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**Material Name**

E-Kleen SR 102-E

**Product Use**

Cleaner.

**Details of the supplier of the safety data sheet**

Electrochemical Products Inc.

17000 West Lincoln Ave

New Berlin, WI 53151

Phone: 262-786-9330

Emergency Phone #: NCEC (#EPI-29003) +1 202 464 2554, +44 1865 407333

E-mail: us-sales@epi.com

www.epi.com

Fax: 262-786-9403

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### Section 2 - HAZARDS IDENTIFICATION

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**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Skin Corrosion/Irritation - Category 1

Serious Eye Damage/Eye Irritation - Category 1

**GHS Label Elements**

**Symbol(s)**



**Signal Word**

Danger

**Hazard Statement(s)**

Causes severe skin burns and eye damage

**Precautionary Statement(s)**

**Prevention**



## Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

Wear protective gloves/protective clothing/eye protection/face protection  
Wash thoroughly after handling  
Do not breathe dusts or mists

### Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
Immediately call a POISON CENTER or doctor  
Specific treatment (see label)

### Storage

Store locked up

### Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations

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## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

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CAS	Component Name	Percent
7732-18-5	Water	60-65
1310-73-2	Sodium Hydroxide	20-25
61791-14-8	Ethoxylated coconut oil alkyl amine	0.5-0.8
68084-34-4	Ethanol, 2,2',2"-nitrilotris-, compound with .alpha.-butyl-.omega.-hydroxypoly(oxy-1,2-ethanediyl) phosphate	2-2.5
123-91-1	1,4-Dioxane	0.0005-0.0009
75-21-8	Ethylene oxide	0.0001-0.0002

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## Section 4 - FIRST AID MEASURES

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### Inhalation



## Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

If inhaled, immediately remove the affected person to fresh air. If the affected person is not breathing, apply artificial respiration. Call a physician if symptoms develop or persist.

### **Skin**

For skin contact flush with large amounts of water while removing contaminated clothing. If irritation develops or persists, seek medical attention. If skin still feels slippery, caustic maybe still present in large enough quantities to cause rash burn. Continue to wash the affective area until it does not feel slippery.

### **Eyes**

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

### **Ingestion**

Do not induce vomiting unless directed to do so by medical personnel. If conscious, drink large quantities of water or acidic beverages like tomato or orange juice or carbonated soft drinks. If vomiting does occur administer additional water. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention or advice.

### **Most Important Symptoms/Effects**

#### **Acute**

Causes severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system.

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## Section 5 - FIRE FIGHTING MEASURES

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### **Extinguishing Media**

#### **Suitable Extinguishing Media**

Dry chemical, foam, carbon dioxide, water fog.

#### **Unsuitable Extinguishing Media**

None known.

### **Special Hazards Arising from the Chemical**

None identified.

### **Hazardous Combustion Products**

None.

### **Fire Fighting Measures**

Firefighters should wear full protective clothing including self contained breathing apparatus.

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## Section 6 - ACCIDENTAL RELEASE MEASURES

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### **Personal Precautions, Protective Equipment and Emergency Procedures**

Isolate area. Keep unnecessary personnel away. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed.

### **Methods and Materials for Containment and Cleaning Up**



## Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

Contain the discharged material. Stop source of leak if possible. Block any potential routes to water systems. Ventilate the contaminated area. Absorb spilled product with a commercial oil absorbent, such as sand or earth. Shovel absorbed material into appropriate container for disposal. Wear appropriate protective equipment and clothing during clean-up. Avoid skin contact and inhalation of vapors during disposal of spills. Isolate area. Keep unnecessary personnel away. Follow all Local, State, Federal and Provincial regulations for disposal. Surfaces may become slippery after spillage. Neutralize with dilute acid. Flush spill area with water followed by liberal coverage of sodium bicarbonate.

### Environmental Precautions

Do not allow the spilled product to enter public drainage system or open water courses.

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## Section 7 - HANDLING AND STORAGE

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### Precautions for Safe Handling

Avoid getting this material into contact with your skin and eyes. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

### Conditions for Safe Storage, Including any Incompatibilities

Store locked up

Keep container tightly closed in a cool, well-ventilated place.

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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### Component Exposure Limits

Sodium Hydroxide	1310-73-2
ACGIH:	2 mg/m <sup>3</sup> Ceiling
NIOSH:	2 mg/m <sup>3</sup> Ceiling
	10 mg/m <sup>3</sup> IDLH
OSHA (US):	2 mg/m <sup>3</sup> TWA
Mexico:	2 mg/m <sup>3</sup> Ceiling
1,4-Dioxane	123-91-1
ACGIH:	20 ppm TWA
	Skin - potential significant contribution to overall exposure by the cutaneous route
NIOSH:	1 ppm Ceiling 30 min; 3.6 mg/m <sup>3</sup> Ceiling 30 min



## Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

	500 ppm IDLH
Europe:	20 ppm TWA; 73 mg/m <sup>3</sup> TWA
OSHA (US):	100 ppm TWA; 360 mg/m <sup>3</sup> TWA
	prevent or reduce skin absorption
Mexico:	25 ppm TWA LMPE-PPT; 90 mg/m <sup>3</sup> TWA LMPE-PPT
	100 ppm STEL [LMPE-CT]; 360 mg/m <sup>3</sup> STEL [LMPE-CT]
	Skin - potential for cutaneous absorption
Ethylene oxide	75-21-8
ACGIH:	1 ppm TWA
NIOSH:	0.1 ppm TWA (less than stated value); 0.18 mg/m <sup>3</sup> TWA (less than stated value)
	5 ppm Ceiling 10 min/day; 9 mg/m <sup>3</sup> Ceiling 10 min/day
	800 ppm IDLH
OSHA (US):	1 ppm TWA
	5 ppm Excursion Limit (See 29 CFR 1910.1047) 15 min; 0.5 ppm Action Level (See 29 CFR 1910.1047); 1 ppm TWA (See 29 CFR 1910.1047)
	5 ppm STEL (See 29 CFR 1910.1047)
Mexico:	1 ppm TWA LMPE-PPT; 2 mg/m <sup>3</sup> TWA LMPE-PPT

### Biological limit value

There are no biological limit values for any of this product's components.

### Engineering Controls

Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

### Individual Protection Measures, such as Personal Protective Equipment

#### Eye/face protection

Wear chemical goggles; face shield (if splashing is possible).

#### Skin Protection

Use of protective coveralls and long sleeves is recommended to prevent skin contact. Use of an impervious apron is recommended.

#### Respiratory Protection

If ventilation is not sufficient to effectively prevent buildup of vapor/mist/fume/dust, appropriate NIOSH/MSHA respiratory protection must be provided.

#### Glove Recommendations

Use chemical resistant impervious gloves.



## Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

### Protective Materials

Eye wash fountain and emergency showers are recommended.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Slightly Amber viscous solution	<b>Physical State</b>	Liquid
<b>Odor</b>	Odorless	<b>Color</b>	Amber
<b>Odor Threshold</b>	Not available	<b>pH</b>	13 - 14
<b>Melting Point</b>	Not available	<b>Boiling Point</b>	>230 °F (110 °C)
<b>Freezing point</b>	45 - 50 °F (7.22-10 °C)	<b>Evaporation Rate</b>	Not available
<b>Boiling Point Range</b>	Not available	<b>Flammability (solid, gas)</b>	Not available
<b>Autoignition</b>	Not available	<b>Flash Point</b>	Not available
<b>Lower Explosive Limit</b>	Not available	<b>Decomposition</b>	Not available
<b>Upper Explosive Limit</b>	Not available	<b>Vapor Pressure</b>	Not available
<b>Vapor Density (air=1)</b>	Not available	<b>Specific Gravity (water=1)</b>	1.22 - 1.3
<b>Water Solubility</b>	Completely	<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Viscosity</b>	Not available	<b>Solubility (Other)</b>	Not available
<b>Density</b>	Not available	<b>VOC</b>	0

## Section 10 - STABILITY AND REACTIVITY

### Reactivity

Contact with some metals, particularly magnesium, aluminum, zinc (galvanized) can rapidly generate hydrogen which can be explosive.

### Chemical Stability

Stable under normal conditions.



## Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

### Possibility of Hazardous Reactions

Will not occur.

### Conditions to Avoid

Avoid contact with extreme heat. Avoid contact with acids.

### Incompatible Materials

This product may react with strong acids.

### Hazardous decomposition products

Carbon monoxide and carbon dioxide.

### Thermal decomposition products

Upon thermal decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

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## Section 11 - TOXICOLOGICAL INFORMATION

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### Acute and Chronic Toxicity

#### Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Water (7732-18-5)

Oral LD50 Rat >90 mL/kg

Sodium Hydroxide (1310-73-2)

Dermal LD50 Rabbit 1350 mg/kg

Ethoxylated coconut oil alkyl amine (61791-14-8)

Oral LD50 Rat 750 mg/kg

1,4-Dioxane (123-91-1)

Oral LD50 Rat 5170 mg/kg

Dermal LD50 Rabbit 7600 µL/kg

Inhalation LC50 Rat 46 mg/L 2 h

Ethylene oxide (75-21-8)

Oral LD50 Rat 72 mg/kg

Inhalation LC50 Rat 800 ppm 4 h

#### Immediate Effects

No information on significant adverse effects.

#### Delayed Effects

No information on significant adverse effects.

#### Irritation/Corrosivity Data

No data available.

#### Respiratory Sensitization

No data available.



## Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

### Dermal Sensitization

No data available.

### Component Carcinogenicity

1,4-Dioxane	123-91-1
ACGIH:	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC:	Monograph 71 [1999]; Supplement 7 [1987]; Monograph 11 [1976] (Group 2B (possibly carcinogenic to humans))
NTP:	Reasonably Anticipated To Be A Human Carcinogen
DFG:	Category 4 (no significant contribution to human cancer)
OSHA:	Present
Ethylene oxide	75-21-8
ACGIH:	A2 - Suspected Human Carcinogen
IARC:	Monograph 100F [2012]; Monograph 97 [2008]; Monograph 60 [1994] (overall evaluation upgraded from Group 2A to Group 1 based on mechanistic and other relevant data) (Group 1 (carcinogenic to humans))
NTP:	Known Human Carcinogen
DFG:	Category 2 (considered to be carcinogenic for man)
OSHA:	Present
OSHA:	see 29 CFR 1910.1047

### Germ Cell Mutagenicity

No data available.

### Tumorigenic Data

No data available

### Reproductive Toxicity

No data available.

### Specific Target Organ Toxicity - Single Exposure

No data available.

### Specific Target Organ Toxicity - Repeated Exposure

No data available.

### Aspiration hazard

No data available.





## Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

### Medical Conditions Aggravated by Exposure

No data available.

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## Section 12 - ECOLOGICAL INFORMATION

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### Ecotoxicity

Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

### Component Analysis - Aquatic Toxicity

Sodium Hydroxide	1310-73-2
Fish:	LC50 96 h <i>Oncorhynchus mykiss</i> 45.4 mg/L [static]
1,4-Dioxane	123-91-1
Fish:	LC50 96 h <i>Lepomis macrochirus</i> >10000 mg/L [static]; LC50 96 h <i>Lepomis macrochirus</i> >10000 mg/L [semi-static]; LC50 96 h <i>Pimephales promelas</i> 9850 mg/L [flow-through]; LC50 96 h <i>Pimephales promelas</i> 10306 - 14742 mg/L [static]; LC50 96 h <i>Pimephales promelas</i> 9850 mg/L
Invertebrate:	EC50 48 h water flea 163 mg/L [static]
Ethylene oxide	75-21-8
Fish:	LC50 96 h <i>Pimephales promelas</i> 73 - 96 mg/L
Invertebrate:	LC50 48 h <i>Daphnia magna</i> 137 - 300 mg/L IUCLID

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## Section 13 - DISPOSAL CONSIDERATIONS

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### Disposal Methods

As shipped, this product would be considered a D002 (corrosive) waste. The U.S. EPA has not published waste numbers for this product's components. Waste must be handled in accordance with all federal, state, provincial, and local regulations. In case of large spills, follow all facility Emergency Response Procedures. Do not allow this material to into sewers/water supplies. Do not reuse container. Dispose of container and any unused contents in accordance with Federal, State, Provincial and Local Waste Regulations.

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## Section 14 - TRANSPORT INFORMATION

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## Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

### US DOT Information:

**Shipping Name:** Sodium hydroxide, solution

**Hazard Class:** 8

**UN/NA #:** UN1824

**Packing Group:** II

**Required Label(s):** Corrosive

### TDG Information:

**Shipping Name:** Sodium hydroxide, solution

**Hazard Class:** 8

**UN#:** UN1824

**Packing Group:** II

**Required Label(s):** Corrosive

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## Section 15 - REGULATORY INFORMATION

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### U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Sodium Hydroxide	1310-73-2
CERCLA:	1000 lb final RQ; 454 kg final RQ
1,4-Dioxane	123-91-1
SARA 313:	0.1 % de minimis concentration
CERCLA:	100 lb final RQ; 45.4 kg final RQ
Ethylene oxide	75-21-8
SARA 302:	1000 lb TPQ
SARA 313:	0.1 % de minimis concentration
CERCLA:	10 lb final RQ; 4.54 kg final RQ
OSHA (safety):	5000 lb TQ
SARA 304:	10 lb EPCRA RQ

### U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA



## Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

Sodium Hydroxide	1310-73-2	Yes	Yes	Yes	Yes	Yes
1,4-Dioxane	123-91-1	Yes	Yes	Yes	Yes	Yes
Ethylene oxide	75-21-8	Yes	Yes	Yes	Yes	Yes

**The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):**

WARNING! This product contains a chemical known to the state of California to cause cancer

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects

1,4-Dioxane	123-91-1
Carc:	carcinogen , 1/1/1988
Ethylene oxide	75-21-8
Carc:	carcinogen , 7/1/1987
Repro/Dev. Tox	developmental toxicity , 8/7/2009
	male reproductive toxicity , 8/7/09
	female reproductive toxicity , initial date 2/27/87

### Canada Regulations

This material is a controlled product under Canadian WHMIS regulations.

### Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

Sodium Hydroxide	1310-73-2
	1 %
1,4-Dioxane	123-91-1
	0.1 %
Ethylene oxide	75-21-8
	0.1 %

### Component Analysis - Inventory

Water (7732-18-5)



# Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes

## Sodium Hydroxide (1310-73-2)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

## Ethoxylated coconut oil alkyl amine (61791-14-8)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

## Ethanol, 2,2',2"-nitrilotris-, compound with .alpha.-butyl-.omega.-hydroxypoly(oxy-1,2-ethanediyl) phosphate (68084-34-4)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	No	No	No	No	No	No	No	Yes	Yes	No

## 1,4-Dioxane (123-91-1)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

## Ethylene oxide (75-21-8)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes

## Section 16 - OTHER INFORMATION

### HMIS Rating



## Safety Data Sheet

Material Name: E-Kleen SR 102-E

SDS ID: EPI-0212c

Health: 3 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard

### NFPA Ratings

Health: 3 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

### Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; JP - Japan; Kow - Octanol/water partition coefficient; KECI - Korea Existing Chemicals Inventory; KECL - Korea Existing Chemicals List; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act.; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

### Other Information

#### Disclaimer:

Reasonable care has been taken in the preparation of this information; however, the manufacturer makes no warranty whatsoever including the warranty of merchantability, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental, consequential, or other such damages resulting from its use or misuse..