

# SAFETY DATA SHEET

W4K263

## Section 1. Identification

**Product name** : DUAL-ETCH® Metal Cleaner  
**Product code** : W4K263  
**Other means of identification** : Not available.  
**Product type** : Liquid.

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

Paint or paint related material.

**Manufacturer** : The Sherwin-Williams Company  
4440 Warrensville Center Road  
Warrensville Heights, OH 44128

**National contact** : Sherwin-Williams Canada Inc.  
180 Brunel Road  
Mississauga, Ontario L4Z 1T5 Canada

**Emergency telephone number of the company** : US / Canada: (216) 566-2917  
Mexico: (52) 55-4160-8800 / (52) 55-4160-8819 Monday to Friday from 8:30 a.m. to 5:30 p.m.

**Product Information Telephone Number** : US / Canada: (800) 798-5872  
Mexico: 01-800-022-7926

**Regulatory Information Telephone Number** : US / Canada: (216) 566-2902  
Mexico: (52) 55-4160-8819 / (52) 55-4160-8806

**Transportation Emergency Telephone Number** : US / Canada: (800) 424-9300  
Mexico: SETIQ 01-800-00-214-00 / (52) 55-5559-1588 24 hours / 365 days a year

## Section 2. Hazards identification

**Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 4  
CORROSIVE TO METALS - Category 1  
ACUTE TOXICITY (oral) - Category 4  
ACUTE TOXICITY (dermal) - Category 3  
SKIN CORROSION/IRRITATION - Category 1  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 23.8%  
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 23.8%

### GHS label elements

**Hazard pictograms**



**Signal word** : Danger

**Hazard statements** : Combustible liquid.  
May be corrosive to metals.  
Toxic in contact with skin.  
Harmful if swallowed.  
Causes severe skin burns and eye damage.  
May cause damage to organs through prolonged or repeated exposure.

### Precautionary statements

**Date of issue/Date of revision** : 1/11/2019    **Date of previous issue** : 7/4/2018    **Version** : 5    1/13  
W4K263    DUAL-ETCH® Metal Cleaner    **SHW-85-NA-GHS-CA**

## Section 2. Hazards identification

- Prevention** : Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from flames and hot surfaces. - No smoking. Keep only in original container. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
- Response** : Absorb spillage to prevent material damage. Get medical attention if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. 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 physician.
- Storage** : Store locked up. Store in a well-ventilated place. Keep cool. Store in a corrosion resistant container with a resistant inner liner.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. FOR PROFESSIONAL USE ONLY.
- Please refer to the SDS for additional information. Keep out of reach of children. Do not transfer contents to other containers for storage.
- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.
- CAS number/other identifiers**

Ingredient name	% by weight	CAS number
Phosphoric Acid	23.8	7664-38-2
2-Butoxyethanol	11.9	111-76-2
Hydrogen Fluoride	1	7664-39-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 4. First aid measures

- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns. Toxic in contact with skin.
- Ingestion** : Harmful if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

## Section 5. Fire-fighting measures

- Specific hazards arising from the chemical** : Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
phosphorus oxides  
halogenated compounds
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb spillage to prevent material damage. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

## Section 7. Handling and storage

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container. Absorb spillage to prevent material damage.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store in a corrosion resistant container with a resistant inner liner. Store locked up. Eliminate all ignition sources. Separate from alkalis. Separate from oxidizing materials. Keep away from metals. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits (OSHA United States)

Ingredient name	Exposure limits
Phosphoric Acid	<p><b>ACGIH TLV (United States, 3/2018).</b> TWA: 1 mg/m<sup>3</sup> 8 hours. STEL: 3 mg/m<sup>3</sup> 15 minutes.</p> <p><b>NIOSH REL (United States, 10/2016).</b> TWA: 1 mg/m<sup>3</sup> 10 hours. STEL: 3 mg/m<sup>3</sup> 15 minutes.</p> <p><b>OSHA PEL (United States, 5/2018).</b> TWA: 1 mg/m<sup>3</sup> 8 hours.</p>
2-Butoxyethanol	<p><b>ACGIH TLV (United States, 3/2018).</b> TWA: 20 ppm 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016).</b> <b>Absorbed through skin.</b> TWA: 5 ppm 10 hours. TWA: 24 mg/m<sup>3</sup> 10 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b> <b>Absorbed through skin.</b> TWA: 50 ppm 8 hours. TWA: 240 mg/m<sup>3</sup> 8 hours.</p>
Hydrogen Fluoride	<p><b>ACGIH TLV (United States, 3/2018).</b> <b>Absorbed through skin.</b> TWA: 0.5 ppm, (as F) 8 hours. C: 2 ppm, (as F)</p> <p><b>OSHA PEL Z2 (United States, 2/2013).</b> TWA: 3 ppm 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016).</b> TWA: 3 ppm 10 hours. TWA: 2.5 mg/m<sup>3</sup> 10 hours. CEIL: 6 ppm 15 minutes. CEIL: 5 mg/m<sup>3</sup> 15 minutes.</p>

## Section 8. Exposure controls/personal protection

OSHA PEL (United States, 5/2018).  
TWA: 2.5 mg/m<sup>3</sup>, (as F) 8 hours.

### Occupational exposure limits (Canada)

Ingredient name	Exposure limits
Phosphoric acid aqueous solution, 35 to 85 %	<p><b>CA Alberta Provincial (Canada, 4/2009).</b> 15 min OEL: 3 mg/m<sup>3</sup> 15 minutes. 8 hrs OEL: 1 mg/m<sup>3</sup> 8 hours.</p> <p><b>CA British Columbia Provincial (Canada, 6/2017).</b> TWA: 1 mg/m<sup>3</sup> 8 hours. STEL: 3 mg/m<sup>3</sup> 15 minutes.</p> <p><b>CA Ontario Provincial (Canada, 1/2018).</b> TWA: 1 mg/m<sup>3</sup> 8 hours. STEL: 3 mg/m<sup>3</sup> 15 minutes.</p> <p><b>CA Quebec Provincial (Canada, 1/2014).</b> TWA EV: 1 mg/m<sup>3</sup> 8 hours. STEV: 3 mg/m<sup>3</sup> 15 minutes.</p> <p><b>CA Saskatchewan Provincial (Canada, 7/2013).</b> STEL: 3 mg/m<sup>3</sup> 15 minutes. TWA: 1 mg/m<sup>3</sup> 8 hours.</p>
Ethylene glycol monobutyl ether	<p><b>CA Alberta Provincial (Canada, 4/2009).</b> 8 hrs OEL: 97 mg/m<sup>3</sup> 8 hours. 8 hrs OEL: 20 ppm 8 hours.</p> <p><b>CA British Columbia Provincial (Canada, 6/2017).</b> TWA: 20 ppm 8 hours.</p> <p><b>CA Ontario Provincial (Canada, 1/2018).</b> TWA: 20 ppm 8 hours.</p> <p><b>CA Quebec Provincial (Canada, 1/2014).</b> TWA EV: 20 ppm 8 hours. TWA EV: 97 mg/m<sup>3</sup> 8 hours.</p> <p><b>CA Saskatchewan Provincial (Canada, 7/2013).</b> STEL: 30 ppm 15 minutes. TWA: 20 ppm 8 hours.</p>
Hydrofluoric acid 70%	<p><b>CA Alberta Provincial (Canada, 4/2009).</b> C: 2 ppm, (as F) C: 1.6 mg/m<sup>3</sup>, (as F) 8 hrs OEL: 0.4 mg/m<sup>3</sup>, (as F) 8 hours. 8 hrs OEL: 0.5 ppm, (as F) 8 hours.</p> <p><b>CA British Columbia Provincial (Canada, 6/2017).</b> C: 2 ppm, (as F)</p> <p><b>CA Ontario Provincial (Canada, 1/2018).</b> <b>Absorbed through skin.</b> TWA: 0.5 ppm, (as F) 8 hours. C: 2 ppm, (as F)</p> <p><b>CA Quebec Provincial (Canada, 1/2014).</b> STEV: 3 ppm, (as F) 15 minutes. STEV: 2.6 mg/m<sup>3</sup>, (as F) 15 minutes.</p> <p><b>CA Saskatchewan Provincial (Canada, 7/2013).</b> CEIL: 2 ppm, (measured as F) 15 minutes. TWA: 0.5 ppm, (measured as F) 8 hours.</p>

### Occupational exposure limits (Mexico)

## Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Phosphoric Acid	<b>NOM-010-STPS-2014 (Mexico, 4/2016).</b> TWA: 1 mg/m <sup>3</sup> 8 hours. STEL: 3 mg/m <sup>3</sup> 15 minutes.
2-Butoxyethanol	<b>NOM-010-STPS-2014 (Mexico, 4/2016).</b> <b>Absorbed through skin.</b> TWA: 20 ppm 8 hours.
Hydrogen Fluoride	<b>NOM-010-STPS-2014 (Mexico, 4/2016).</b> <b>Absorbed through skin.</b> CEIL: 0.5 ppm, (as F)

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

Physical state	: Liquid.
Color	: Not available.
Odor	: Not available.
Odor threshold	: Not available.
pH	: 0.9
Melting point/freezing point	: Not available.
Boiling point/boiling range	: 100°C (212°F)
Flash point	: Closed cup: 63°C (145.4°F) [Tagliabue Closed Cup]
Evaporation rate	: 0.09 (butyl acetate = 1)
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Lower: 1.1% Upper: 10.6%
Vapor pressure	: 2.3 kPa (17.5 mm Hg) [at 20°C]
Vapor density	: 1 [Air = 1]
Relative density	: 1.13
Solubility	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Kinematic (40°C (104°F)): -0.01 cm <sup>2</sup> /s (-1 cSt)
Molecular weight	: Not applicable.

### Aerosol product

## Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Incompatible materials	: Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Reactive or incompatible with the following materials: alkalis oxidizing materials metals
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.



## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Phosphoric Acid	LD50 Oral	Rat	1.25 g/kg	-
2-Butoxyethanol	LCLo Inhalation Vapor	Guinea pig	>3.1 mg/l	1 hours
	LD50 Dermal	Guinea pig	>2000 mg/kg	-
Hydrogen Fluoride	LD50 Oral	Rat	1300 mg/kg	-
	LC50 Inhalation Gas.	Rat	1276 ppm	1 hours
	LC50 Inhalation Vapor	Rat	1100 mg/m <sup>3</sup>	60 minutes

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-Butoxyethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Hydrogen Fluoride	Eyes - Severe irritant	Human	-	50 milligrams	-
	Skin - Severe irritant	Rat	-	3 minutes 50 Percent	-

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Classification

Product/ingredient name	OSHA	IARC	NTP
2-Butoxyethanol	-	3	-

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
2-Butoxyethanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

#### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
2-Butoxyethanol	Category 2	Not determined	Not determined

#### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

**Potential acute health effects**

**Eye contact** : Causes serious eye damage.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Causes severe burns. Toxic in contact with skin.  
**Ingestion** : Harmful if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness  
**Inhalation** : No specific data.  
**Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
**Ingestion** : Adverse symptoms may include the following:  
stomach pains

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

**Long term exposure**

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

**Potential chronic health effects**

Not available.

**General** : May cause damage to organs through prolonged or repeated exposure.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

<b>Route</b>	<b>ATE value</b>
Oral	438.2 mg/kg
Dermal	361.4 mg/kg
Inhalation (vapors)	26.28 mg/l

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Phosphoric Acid 2-Butoxyethanol	Acute EC50 105 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 60 ppm Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute EC50 >1000 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 800000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 1250000 µg/l Marine water	Fish - Menidia beryllina	96 hours

### Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2-Butoxyethanol	-	-	Readily

### Bioaccumulative potential

Not available.

### Mobility in soil






**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
<b>UN number</b>	UN3264	UN3264	UN3264	UN3264	UN3264
<b>UN proper shipping name</b>	Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric Acid)	Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric Acid)	Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric Acid)	Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric Acid)	Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric Acid)
<b>Transport hazard class(es)</b>	8 	8 	8 	8 	8 
<b>Packing group</b>	II	II	II	II	II

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Version : 5 11/13

W4K263

DUAL-ETCH® Metal Cleaner

SHW-85-NA-GHS-CA

## Section 14. Transport information

Environmental hazards	No.	No.	No.	No.	No.
<b>Additional information</b>	-	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 40-2.42 (Class 8).	-	-	<b>Emergency schedules</b> F-A, S-B
	<u>ERG No.</u> 154	<u>ERG No.</u> 154	<u>ERG No.</u> 154		

**Special precautions for user :** Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

**Transport in bulk according to Annex II of MARPOL and the IBC Code :** Not available.

**Proper shipping name :** Not available.  
**Ship type :** Not available.  
**Pollution category :** Not available.

## Section 15. Regulatory information

International regulations

**International lists :** Australia inventory (AICS): Not determined.  
 China inventory (IECSC): Not determined.  
 Japan inventory (ENCS): Not determined.  
 Japan inventory (ISHL): Not determined.  
 Korea inventory (KECI): Not determined.  
 Malaysia Inventory (EHS Register): Not determined.  
 New Zealand Inventory of Chemicals (NZIoC): Not determined.  
 Philippines inventory (PICCS): Not determined.  
 Taiwan Chemical Substances Inventory (TCSI): Not determined.  
 Thailand inventory: Not determined.  
 Turkey inventory: Not determined.  
 Vietnam inventory: Not determined.

## Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	3
Flammability		2
Physical hazards		0

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

## Section 16. Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 4	On basis of test data
CORROSIVE TO METALS - Category 1	Calculation method
ACUTE TOXICITY (oral) - Category 4	Calculation method
ACUTE TOXICITY (dermal) - Category 3	Calculation method
SKIN CORROSION/IRRITATION - Category 1	On basis of test data
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1	On basis of test data
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method

### History

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**Key to abbreviations** : ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

### Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.