



## DF450 - High Alkaline Cleaner 450

### SECTION 1: IDENTIFICATION

- 1.1 GHS Product identifier:** DF450 - High Alkaline Cleaner 450
- 1.2 Recommended use of the chemical and restrictions on use:**  
Relevant uses: Chemical cleaning products  
Liquid alkaline cleaner for use in commercial car washes.  
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:**  
Cleaning Systems, Inc.  
1997 American Blvd  
54115 De Pere - United States  
Phone.: 9203372175 - Fax: 9203379410  
chemcompliance@cleaningsystemsinc.com  
http://cleaningsystemsinc.com
- 1.4 Emergency phone number:** 1-800-424-9300 or 1-703-527-3887

### SECTION 2: HAZARD(S) IDENTIFICATION

- 2.1 Classification of the substance or mixture:**  
**29 CFR 1910.1200:**  
Classification of this product has been carried out in accordance with paragraph (d) of § 1910.1200.  
Eye Dam. 1: Serious eye damage, Category 1, H318  
Skin Corr. 1A: Skin corrosion, Category 1A, H314  
STOT SE 3: Respiratory tract toxicity, single exposure, Category 3, H335
- 2.2 Label elements:**  
**29 CFR 1910.1200:**  
Danger
-  
- Hazard statements:**  
Skin Corr. 1A: H314 - Causes severe skin burns and eye damage  
STOT SE 3: H335 - May cause respiratory irritation
- Precautionary statements:**  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310: Immediately call a poison center/doctor  
P403+P233: Store in a well-ventilated place. Keep container tightly closed  
P501: Dispose of contents and / or containers in accordance with regulations on hazardous waste or packaging and packaging waste respectively
- Substances that contribute to the classification**  
Anionic Surfactants; Ethoxylated Alcohol; 2-aminoethanol; Tetrasodium ethylenediaminetetraacetate
- Acute Toxicity Estimate (ATE mix):**  
13.2 % (oral), 33.67 % (dermal), 33.67 % (inhalation) of the mixture consists of ingredient(s) of unknown toxicity
- 2.3 Other hazards which do not result in classification:**  
Non-applicable

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- CONTINUED ON NEXT PAGE -

**DF450 - High Alkaline Cleaner 450**

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)**

**3.1 Substances:**

Non-applicable

**3.2 Mixtures:**

**Chemical description:** Aqueous mixture composed of chemical products for cleaning products

**Components:**

Remaining components are non-hazardous and/or present at amounts below reportable limits. The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200. Therefore, in accordance with Appendix D to § 1910.1200, the product contains:

Identification	Chemical name/Classification	Concentration
CAS: Proprietary	<b>Anionic Surfactants</b> Eye Dam. 1: H318; Skin Irrit. 2: H315 - Danger	5 - <10 %
CAS: Proprietary	<b>Ethoxylated Alcohol</b> Acute Tox. 4: H302; Eye Dam. 1: H318 - Danger	5 - <10 %
CAS: 141-43-5	<b>2-aminoethanol</b> Acute Tox. 4: H302+H312+H332; Flam. Liq. 4: H227; Skin Corr. 1B: H314 - Danger	5 - <10 %
CAS: 1300-72-7	<b>Sodium xylenesulphonate</b> Eye Irrit. 2: H319 - Warning	5 - <10 %
CAS: 64-02-8	<b>Tetrasodium ethylenediaminetetraacetate</b> Acute Tox. 4: H302; Eye Dam. 1: H318 - Danger	5 - <10 %
CAS: 1310-73-2	<b>Sodium hydroxide</b> Skin Corr. 1A: H314 - Danger	<5 %
CAS: 111-76-2	<b>2-butoxyethanol</b> Acute Tox. 4: H302+H312+H332; Eye Irrit. 2: H319; Flam. Liq. 4: H227; Skin Irrit. 2: H315 - Warning	<5 %

To obtain more information on the hazards of the substances consult sections 8, 11, 12, 15 and 16.

**SECTION 4: FIRST-AID MEASURES**

**4.1 Description of necessary measures:**

Request medical assistance immediately, showing the SDS of this product.

**By inhalation:**

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

**By skin contact:**

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

**By eye contact:**

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

**By ingestion/aspiration:**

Request immediate medical assistance, showing the SDS of this product. Do not induce vomiting, because its expulsion from the stomach can be hazardous to the mucus of the main digestive tract, and its inhalation, to the respiratory system. Rinse out the mouth and throat, as they may have been affected during ingestion. In the case of loss of consciousness do not administrate anything orally unless supervised by a doctor. Keep the person affected at rest.

**4.2 Most important symptoms/effects, acute and delayed:**

Acute and delayed effects are indicated in sections 2 and 11.

**4.3 Indication of immediate medical attention and special treatment needed, if necessary:**

Non-applicable

- CONTINUED ON NEXT PAGE -

## DF450 - High Alkaline Cleaner 450

### SECTION 5: FIRE-FIGHTING MEASURES

#### 5.1 Suitable (and unsuitable) extinguishing media:

Product is non-flammable under normal conditions of storage, manipulation and use, but the product contains flammable substances. In the case of inflammation as a result of improper manipulation, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems. IT IS NOT RECOMMENDED to use tap water as an extinguishing agent.

#### 5.2 Specific hazards arising from the chemical:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

#### 5.3 Special protective equipment and precautions for fire-fighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

##### Additional provisions:

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Only properly trained personnel should be involved in firefighting. Evacuate nonessential personnel from the fire area. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures:

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Evacuate the area and keep out those who do not have protection.

#### 6.2 Environmental precautions:

The characteristic of corrosivity per RCRA could apply to the unused product if it becomes a waste material. The EPA hazardous waste number D002 could apply. It is the responsibility of the waste generator to evaluate whether his wastes are hazardous by characteristics or listing.

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

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

#### 6.4 Reference to other sections:

See sections 8 and 13.

### SECTION 7: HANDLING AND STORAGE

#### 7.1 Precautions for safe handling:

##### A.- Precautions for safe manipulation

Comply with the current standards 29 CFR 1910 Occupational Safety and Health Standards. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

##### B.- Technical recommendations for the prevention of fires and explosions

Product is non-flammable under normal conditions of storage, manipulation and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

##### C.- Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

##### D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

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

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**DF450 - High Alkaline Cleaner 450**

**SECTION 7: HANDLING AND STORAGE (continued)**

A.- Technical measures for storage

Minimum Temp.: -4 °F

Maximum Temp.: 120 °F

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

**7.3 Specific end use(s):**

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters:**

Substances whose occupational exposure limits have to be monitored in the workplace

Identification	Environmental limits		
	8-hour TWA PEL	50 ppm	240 mg/m <sup>3</sup>
2-butoxyethanol CAS: 111-76-2	Ceiling Values - TWA PEL		
2-aminoethanol CAS: 141-43-5	8-hour TWA PEL	3 ppm	6 mg/m <sup>3</sup>
	Ceiling Values - TWA PEL		
Sodium hydroxide CAS: 1310-73-2	8-hour TWA PEL		2 mg/m <sup>3</sup>
	Ceiling Values - TWA PEL		

**8.2 Appropriate engineering controls:**


A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protection Equipment. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation, the information on clothing performance must be combined with professional judgment, and a clear understanding of the clothing application, to provide the best protection to the worker. All chemical protective clothing use must be based on a hazard assessment to determine the risks for exposure to chemicals and other hazards. Conduct hazard assessments in accordance with 29 CFR 1910.132.

B.- Respiratory protection


The use of protection equipment will be necessary if a mist forms or if the occupational exposure limits are exceeded.

C.- Specific protection for the hands

Pictogram	PPE	Remarks
 Mandatory hand protection	Protective gloves against minor risks	Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional /industrial users, we recommend using chemical protection gloves. Use gloves in accordance with manufacturer's use limitations and OSHA standard 1910.138 (29CFR)

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application

D.- Ocular and facial protection

Pictogram	PPE	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. Use this PPE in accordance with manufacturer's use limitations and OSHA standard 1910.133 (29CFR)

E.- Bodily protection



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**DF450 - High Alkaline Cleaner 450**

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**

Pictogram	PPE	Remarks
	Work clothing	Replace before any evidence of deterioration.
	Anti-slip work shoes	Replace before any evidence of deterioration.

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2002	 Eyewash stations	DIN 12 899 ISO 3864-1:2002

**Environmental exposure controls:**

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties:**

For complete information see the product datasheet.

**Appearance:**

Physical state at 68 °F: Liquid  
 Appearance: Opaque  
 Color: Blue  
 Odor: Not available  
 Odour threshold: Non-applicable \*

**Volatility:**

Boiling point at atmospheric pressure: 223 °F  
 Vapour pressure at 68 °F: 2253 Pa  
 Vapour pressure at 122 °F: 89.08 (11.88 kPa)  
 Evaporation rate at 68 °F: Non-applicable \*

**Product description:**

Density at 68 °F: 1087.7 kg/m<sup>3</sup>  
 Relative density at 68 °F: 1.088  
 Dynamic viscosity at 68 °F: Non-applicable \*  
 Kinematic viscosity at 68 °F: Non-applicable \*  
 Kinematic viscosity at 104 °F: Non-applicable \*  
 Concentration: Non-applicable \*  
 pH: >13 at 100 %  
 Vapour density at 68 °F: Non-applicable \*  
 Partition coefficient n-octanol/water 68 °F: Non-applicable \*  
 Solubility in water at 68 °F: Non-applicable \*  
 Solubility properties: Non-applicable \*  
 Decomposition temperature: Non-applicable \*

\*Not relevant due to the nature of the product, not providing information property of its hazards.

- CONTINUED ON NEXT PAGE -

**DF450 - High Alkaline Cleaner 450**

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)**

Melting point/freezing point:	Non-applicable *
Explosive properties:	Non-applicable *
Oxidising properties:	Non-applicable *
<b>Flammability:</b>	
Flash Point:	Non Flammable (>199.4 °F)
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	>460 °F
Lower flammability limit:	Non-applicable *
Upper flammability limit:	Non-applicable *
<b>Explosive:</b>	
Lower explosive limit:	Non-applicable *
Upper explosive limit:	Non-applicable *
<b>9.2 Other information:</b>	
Surface tension at 68 °F:	Non-applicable *
Refraction index:	Non-applicable *

\*Not relevant due to the nature of the product, not providing information property of its hazards.

**SECTION 10: STABILITY AND REACTIVITY**

**10.1 Reactivity:**

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

**10.2 Chemical stability:**

Chemically stable under the conditions of storage, handling and use.

**10.3 Possibility of hazardous reactions:**

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

**10.4 Conditions to avoid:**

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Precaution	Precaution	Not applicable

**10.5 Incompatible materials:**

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Precaution	Not applicable	Not applicable

**10.6 Hazardous decomposition products:**

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO<sub>2</sub>), carbon monoxide and other organic compounds.

**SECTION 11: TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects:**

The experimental information related to the toxicological properties of the product itself is not available

Contains glycols. With possibility of effects that are hazardous to the health, it is recommended not to breathe the vapours for long periods of time.

**Dangerous health implications:**

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A- Ingestion (acute effect):

- CONTINUED ON NEXT PAGE -

**DF450 - High Alkaline Cleaner 450**

**SECTION 11: TOXICOLOGICAL INFORMATION (continued)**

- Acute toxicity : Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: Corrosive product, if it is swallowed causes burns destroying the tissues. For more information about secondary effects from skin contact see section 2.

**B- Inhalation (acute effect):**

- Acute toxicity : Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Prolonged inhalation of the product is corrosive to mucous membranes and the upper respiratory tract

**C- Contact with the skin and the eyes (acute effect):**

- Contact with the skin: Above all, skin contact may occur as fabrics of all thicknesses can be destroyed, resulting in burns. For more information on the secondary effects see section 2.
- Contact with the eyes: Produces serious eye damage after contact.

**D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):**

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for the effects mentioned. For more information see section 3.  
IARC: 2-butoxyethanol (3); Diethanolamine (2B)
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

**E- Sensitizing effects:**

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensitising effects. For more information see section 3.
- Cutaneous: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

**F- Specific target organ toxicity (STOT) - single exposure:**

Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

**G- Specific target organ toxicity (STOT)-repeated exposure:**

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

**H- Aspiration hazard:**

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

**Other information:**

Non-applicable

**Specific toxicology information on the substances:**

Identification	Acute toxicity		Genus
2-butoxyethanol CAS: 111-76-2	LD50 oral	1414 mg/kg	Rat
	LD50 dermal	1060 mg/kg	Rabbit
	LC50 inhalation	11 mg/L (4 h)	Rat
2-aminoethanol CAS: 141-43-5	LD50 oral	500 mg/kg	Rat
	LD50 dermal	1025 mg/kg	Rabbit
	LC50 inhalation	11 mg/L (4 h)	Rat
Sodium xylenesulphonate CAS: 1300-72-7	LD50 oral	7200 mg/kg	Rat
	LD50 dermal	Non-applicable	
	LC50 inhalation	Non-applicable	

- CONTINUED ON NEXT PAGE -



**DF450 - High Alkaline Cleaner 450**

**SECTION 11: TOXICOLOGICAL INFORMATION (continued)**

Identification	Acute toxicity		Genus
	LD50 oral	LD50 dermal	
Ethoxylated Alcohol CAS: Proprietary	500 mg/kg (ATEi)	Non-applicable	
	Non-applicable	Non-applicable	
	Non-applicable	Non-applicable	
Tetrasodium ethylenediaminetetraacetate CAS: 64-02-8	1700 mg/kg	Non-applicable	Rat
	Non-applicable	Non-applicable	
	Non-applicable	Non-applicable	

**Acute Toxicity Estimate (ATE mix):**

ATE mix		Ingredient(s) of unknown toxicity
Oral	2472.13 mg/kg (Calculation method)	13.2 %
Dermal	7267.64 mg/kg (Calculation method)	33.67 %
Inhalation	77.39 mg/L (4 h) (Calculation method)	33.67 %

**SECTION 12: ECOLOGICAL INFORMATION**

The experimental information related to the eco-toxicological properties of the product itself is not available

**12.1 Ecotoxicity (aquatic and terrestrial, where available):**

Identification	Acute toxicity		Species	Genus
	LC50	EC50		
2-aminoethanol CAS: 141-43-5	349 mg/L (96 h)		Cyprinus carpio	Fish
	65 mg/L (48 h)		Daphnia magna	Crustacean
	22 mg/L (72 h)		Scenedesmus subspicatus	Algae
Tetrasodium ethylenediaminetetraacetate CAS: 64-02-8	121 mg/L (96 h)		Lepomis macrochirus	Fish
	140 mg/L (48 h)		Daphnia magna	Crustacean
	Non-applicable			
Sodium hydroxide CAS: 1310-73-2	189 mg/L (48 h)		Leuciscus idus	Fish
	33 mg/L		Crangon crangon	Crustacean
	Non-applicable			
2-butoxyethanol CAS: 111-76-2	1490 mg/L (96 h)		Lepomis macrochirus	Fish
	1815 mg/L (48 h)		Daphnia magna	Crustacean
	911 mg/L (72 h)		Pseudokirchneriella subcapitata	Algae

**12.2 Persistence and degradability:**

Identification	Degradability		Biodegradability	
	BOD5	COD	Concentration	Period
2-aminoethanol CAS: 141-43-5	Non-applicable	Non-applicable	20 mg/L	21 days
	Non-applicable	Non-applicable	% Biodegradable	90 %
	0.71 g O2/g	2.2 g O2/g	100 mg/L	14 days
2-butoxyethanol CAS: 111-76-2	0.32		% Biodegradable	96 %

**12.3 Bioaccumulative potential:**

Identification	Bioaccumulation potential	
	BCF	Pow Log
2-aminoethanol CAS: 141-43-5	3	-1.31
	Low	
	2	-13
Tetrasodium ethylenediaminetetraacetate CAS: 64-02-8	Low	
	3	0.83
	Low	
2-butoxyethanol CAS: 111-76-2	Low	

**12.4 Mobility in soil:**

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**DF450 - High Alkaline Cleaner 450**

**SECTION 12: ECOLOGICAL INFORMATION (continued)**

Identification	Absorption/desorption		Volatility	
2-aminoethanol CAS: 141-43-5	Koc	0.27	Henry	3.7E-5 Pa·m <sup>3</sup> /mol
	Conclusion	Very High	Dry soil	No
	Surface tension	5.025E-2 N/m (77 °F)	Moist soil	No
Tetrasodium ethylenediaminetetraacetate CAS: 64-02-8	Koc	1046	Henry	0E+0 Pa·m <sup>3</sup> /mol
	Conclusion	Low	Dry soil	No
	Surface tension	Non-applicable	Moist soil	No
2-butoxyethanol CAS: 111-76-2	Koc	8	Henry	1.621E-1 Pa·m <sup>3</sup> /mol
	Conclusion	Very High	Dry soil	No
	Surface tension	2.729E-2 N/m (77 °F)	Moist soil	Yes

**12.5 Results of PBT and vPvB assessment:**

Non-applicable

**12.6 Other adverse effects:**

Not described

**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1 Disposal methods:**

**Waste management (disposal and evaluation):**

Consult the authorized waste service manager on the assessment and disposal operations. In case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See epigraph 6.2.

**Regulations related to waste management:**

Legislation related to waste management:

40 CFR Part 261- IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

**SECTION 14: TRANSPORT INFORMATION**

**Transport of dangerous goods by land:**

With regard to 49 CFR on the Transport of Dangerous Goods:



- 14.1 UN number:** UN1824
- 14.2 UN proper shipping name:** SODIUM HYDROXIDE SOLUTION
- 14.3 Transport hazard class(es):** 8  
Labels: 8
- 14.4 Packing group, if applicable:** II
- 14.5 Environmental hazard:** No
- 14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises**  
Physico-Chemical properties: see section 9
- 14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** Non-applicable

**Transport of dangerous goods by sea:**

With regard to IMDG 38-16:

- CONTINUED ON NEXT PAGE -

**DF450 - High Alkaline Cleaner 450**

**SECTION 14: TRANSPORT INFORMATION (continued)**



- 14.1 UN number: UN1824
- 14.2 UN proper shipping name: SODIUM HYDROXIDE SOLUTION
- 14.3 Transport hazard class(es): 8  
Labels: 8
- 14.4 Packing group, if applicable: II
- 14.5 Environmental hazard: No
- 14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises  
Physico-Chemical properties: see section 9
- 14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Non-applicable

**Transport of dangerous goods by air:**

With regard to IATA/ICAO 2019:



- 14.1 UN number: UN1824
- 14.2 UN proper shipping name: SODIUM HYDROXIDE SOLUTION
- 14.3 Transport hazard class(es): 8  
Labels: 8
- 14.4 Packing group, if applicable: II
- 14.5 Environmental hazard: No
- 14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises  
Physico-Chemical properties: see section 9
- 14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Non-applicable

**SECTION 15: REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations specific for the product in question:**

SARA Title III - Toxic Chemical Release Inventory Reporting (Section 313): 2-butoxyethanol  
 California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986): Non-applicable  
 The Toxic Substances Control Act (TSCA) : Anionic Surfactants ; Ethoxylated Alcohol ; 2-aminoethanol ; Sodium xylenesulphonate ; Tetrasodium ethylenediaminetetraacetate ; Sodium hydroxide ; 2-butoxyethanol  
 Massachusetts RTK - Substance List: Sodium hydroxide  
 New Jersey Worker and Community Right-to-Know Act: 2-aminoethanol ; Sodium hydroxide ; 2-butoxyethanol  
 New York RTK - Substance list: 2-aminoethanol ; Sodium hydroxide ; 2-butoxyethanol  
 Pennsylvania Worker and Community Right-to-Know Law: 2-aminoethanol ; Sodium hydroxide ; 2-butoxyethanol  
 CANADA-Domestic Substances List (DSL): Anionic Surfactants ; Ethoxylated Alcohol ; 2-aminoethanol ; Sodium xylenesulphonate ; Tetrasodium ethylenediaminetetraacetate ; Sodium hydroxide ; 2-butoxyethanol  
 CANADA-Non-Domestic Substances List (NDSL): Non-applicable  
 NTP (National Toxicology Program): Non-applicable  
 Minnesota - Hazardous substances ERTK: 2-aminoethanol ; Sodium hydroxide ; 2-butoxyethanol  
 Rhode Island - Hazardous substances RTK: 2-aminoethanol ; Sodium hydroxide ; 2-butoxyethanol  
 OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096): Non-applicable  
 Hazardous substances release notification under CERCLA sections 102-103 (40 CFR Part 302): Sodium hydroxide (1000 pounds)

**Specific provisions in terms of protecting people or the environment:**

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

**Other legislation:**

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## DF450 - High Alkaline Cleaner 450

### SECTION 15: REGULATORY INFORMATION (continued)

The Toxic Substances Control Act (TSCA)  
Occupational Safety and Health Standards (1910 Subpart Z - Toxic and Hazardous Substances)

### SECTION 16: OTHER INFORMATION

#### Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Appendix d to §1910.1200 - Safety data sheets

#### Texts of the legislative phrases mentioned in section 2:

H314: Causes severe skin burns and eye damage

H318: Causes serious eye damage

H335: May cause respiratory irritation

#### Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

#### 29 CFR 1910.1200:

Acute Tox. 4: H302 - Harmful if swallowed

Acute Tox. 4: H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled

Eye Dam. 1: H318 - Causes serious eye damage

Eye Irrit. 2: H319 - Causes serious eye irritation

Flam. Liq. 4: H227 - Combustible liquid

Skin Corr. 1A: H314 - Causes severe skin burns and eye damage

Skin Corr. 1B: H314 - Causes severe skin burns and eye damage

Skin Irrit. 2: H315 - Causes skin irritation

#### Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

#### Principal bibliographical sources:

Occupational Safety & Health Administration (OSHA).

#### Abbreviations and acronyms:

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5-day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

CL50: Lethal Concentration 50

EC50: Effective concentration 50

Log-POW: Octanol-water partition coefficient

Koc: Partition coefficient of organic carbon

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END OF SAFETY DATA SHEET