



# SAFETY DATA SHEET

## OPTISPERSE\* APFE103

### 1. Identification

Product identifier	OPTISPERSE APFE103
Other means of identification	None.
Recommended use	Internal boiler water treatment
Recommended restrictions	None known.

#### Company/undertaking identification

Veolia WTS USA, Inc.  
3600 Horizon Blvd.  
Trevose, PA 19053  
T 215 355 3300, F 215 953 5524

#### Emergency telephone

(800) 877 1940

### 2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1B
	Serious eye damage/eye irritation	Category 1
OSHA defined hazards	Not classified.	

#### Label elements



Signal word	Danger
Hazard statement	May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage.
Precautionary statement	
Prevention	Keep only in original packaging. Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.
Storage	Store locked up. Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

### 3. Composition/information on ingredients

#### Mixtures

Components	CAS #	Percent
Sodium hydroxide	1310-73-2	1 - 2.5
<b>Composition comments</b>		Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

### 4. First-aid measures

#### Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

#### Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

#### Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

#### Ingestion

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

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

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

#### Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

#### General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

#### Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

#### Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

#### Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

#### Special protective equipment and precautions for firefighters

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

#### Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

#### Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

### 6. Accidental release measures

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

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with spilled material. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. See Section 8 of the SDS for Personal Protective Equipment. Corrosive to skin and eyes.

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

Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

#### Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

## 7. Handling and storage

### Precautions for safe handling

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear protective gloves/eye protection/face protection. Observe good industrial hygiene practices. Corrosive liquid. Do not mix with acidic material.

### Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Do not allow material to freeze. Do not store near acids. If frozen, thaw and mix completely prior to use. Do not store in aluminum containers.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### Appropriate engineering controls

Eye wash facilities and emergency shower must be available when handling this product. Provide adequate ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear safety glasses with side shields (or goggles) and a face shield.

### Skin protection

#### Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

#### Other

Wear appropriate chemical resistant clothing.

### Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

### General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

Liquid

### Physical state

Liquid.

### Form

Liquid.

### Color

Amber

### Odor

Mild

### Odor threshold

Not available.

### pH (concentrated product)

13.6

### Melting point/freezing point

30 °F (-1 °C)

### Initial boiling point and boiling range

220 °F (104 °C)

<b>Flash point</b>	> 213 °F (> 101 °C) P-M(CC)
<b>Evaporation rate</b>	< 1 (Ether = 1)
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	18 mm Hg
<b>Vapor pressure temp.</b>	70 °F (21 °C)
<b>Vapor density</b>	< 1 (Air = 1)
<b>Relative density</b>	1.13
<b>Relative density temperature</b>	70 °F (21 °C)
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	100 %
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	17 cps
<b>Viscosity temperature</b>	70 °F (21 °C)
<b>Other information</b>	
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.
<b>pH in aqueous solution</b>	12.5 (5% SOL.)
<b>Pour point</b>	35 °F (2 °C)
<b>VOC</b>	0 % (Estimated)

## 10. Stability and reactivity

<b>Reactivity</b>	May be corrosive to metals.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Contact with incompatible materials. None under normal conditions.
<b>Incompatible materials</b>	Strong acids. Strong oxidizing agents. Metals.
<b>Hazardous decomposition products</b>	Oxides of carbon, sulphur, and phosphorus evolved in fire.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful. Mists/aerosols may cause irritation to upper respiratory tract.
<b>Skin contact</b>	Causes severe skin burns.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	Causes digestive tract burns.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

### Information on toxicological effects

#### Acute toxicity

Product	Species	Test Results
OPTISPERSE APFE103		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)
<b>Oral</b>		
LD50	Rat	> 5000 mg/kg (Calculated according to GHS additivity formula)
Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	1350 mg/kg
<b>Oral</b>		
LD50	Rabbit	> 500 mg/kg
<b>Skin corrosion/irritation</b>	Causes severe skin burns and eye damage.	
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	This product is not expected to cause respiratory sensitization.	
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.	
<b>Germ cell mutagenicity</b>	Not classified.	
<b>Carcinogenicity</b>	Not classified.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Not listed.		
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)</b>		
Not listed.		
<b>US. National Toxicology Program (NTP) Report on Carcinogens</b>		
Not listed.		
<b>Reproductive toxicity</b>	Not classified.	
<b>Specific target organ toxicity - single exposure</b>	Not classified.	
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.	
<b>Aspiration hazard</b>	Classification not possible.	
<b>Chronic effects</b>	Prolonged inhalation may be harmful.	

## 12. Ecological information

### Ecotoxicity

Product	Species	Test Results
<b>Aquatic</b>		
Crustacea	LC50	Daphnia magna 4340 mg/L, 48 H (Estimated/pH adjusted)
Fish	LC50	Fathead Minnow 9115 mg/L, 96 H (Estimated/pH adjusted)

### Bioaccumulative potential

**Mobility in soil** No data available.

**Other adverse effects** Not available.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

<b>UN number</b>	UN1824
<b>UN proper shipping name</b>	Sodium hydroxide solution, RQ(Sodium hydroxide)
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Special precautions for user</b>	Not available.
<b>ERG number</b>	154
Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.	

### IATA

<b>UN number</b>	UN1824
<b>UN proper shipping name</b>	Sodium hydroxide solution
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	154
<b>Special precautions for user</b>	Not available.

### IMDG

<b>UN number</b>	UN1824
<b>UN proper shipping name</b>	SODIUM HYDROXIDE SOLUTION, RQ(Sodium hydroxide)
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-A, S-B
<b>Special precautions for user</b>	Not available.

### DOT





## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Toxic Substances Control Act (TSCA)**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Sodium hydroxide (CAS 1310-73-2)

Listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical**

Yes

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)**

Contains component(s) regulated under the Safe Drinking Water Act.

**Inventory status**

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**Food and drug administration**

This product can be used as a boiler water additive in applications requiring compliance with FDA regulation 21 CFR 173.310.

**NSF Registered and/or meets USDA (according to 1998 guidelines):**

Registration No. – 146617

Category Code(s):

G5 Cooling and retort water treatment products

G6 Boiler treatment products, steam line products – food contact

**US state regulations**

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Sodium hydroxide (CAS 1310-73-2)

## California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

### US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

### US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

### US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

## 16. Other information, including date of preparation or last revision

**Issue date** Aug-14-2014

**Revision date** Feb-19-2023

**Version #** 4.4

**NFPA ratings**  
Health: 3  
Flammability: 0  
Instability: 0

**NFPA ratings**



### List of abbreviations

CAS: Chemical Abstract Service Registration Number

TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

ACGIH: American Conference of Governmental Industrial Hygienists

NOEL: No Observed Effect Level

STEL: Short Term Exposure Limit

LC50: Lethal Concentration, 50%

LD50: Lethal Dose, 50%

TWA: Time Weighted Average

BOD: Biochemical Oxygen Demand

COD: Chemical Oxygen Demand

TOC: Total Organic Carbon

IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods Code

### References:

### Disclaimer

No data available

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

### Revision information

Transport Information: Material Transportation Information

Other information, including date of preparation or last revision: Prepared by

### Prepared by

This SDS has been prepared by Veolia Water Technologies & Solutions' Regulatory Department (1-215-355-3300).

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