



SAFETY DATA SHEET

OPTISPERSE* ADJ5050

1. Identification

| | |
|--------------------------------------|--|
| Product identifier | OPTISPERSE ADJ5050 |
| Other means of identification | None. |
| Version # | 2.4 |
| Prepared by | This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300). |
| Revision date | Sep-14-2020 |
| Supersedes date | Jun-19-2019 |
| Recommended use | Water based internal boiler treatment chemical. |
| Recommended restrictions | None known. |

Company/undertaking identification

SUEZ Water Technologies & Solutions Canada
3239 Dundas Street West
Oakville, Ontario, L6M 4B2
T 905-465-3030

Emergency telephone

(800) 877-1940

2. Hazard identification

| | | |
|-------------------------|-----------------------------------|-------------|
| Physical hazards | Corrosive to metals | Category 1 |
| Health hazards | Acute toxicity, oral | Category 4 |
| | Skin corrosion/irritation | Category 1A |
| | Serious eye damage/eye irritation | Category 1 |

Label elements



| | |
|--------------------------------|---|
| Signal word | Danger |
| Hazard statement | May be corrosive to metals. Harmful if swallowed. 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. Do not eat, drink or smoke when using this product. 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. 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. |

Other hazards None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Components | CAS # | Percent (wt/wt) |
|------------------|-----------|-----------------|
| Sodium hydroxide | 1310-73-2 | 45 - 70 |

All concentrations are in percent by weight (kg) unless ingredient is a gas. Gas concentrations are in percent by volume (l).

Composition comments The exact concentrations of the above listed chemicals are being withheld as confidential business information. Information for specific product ingredients as required by the WHMIS Regulations 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. Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Rinse mouth. 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 warm. 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. Show this safety data sheet to the doctor in attendance.

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. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material. 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. Cover with plastic sheet to prevent spreading. 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. Place in waste disposal container. Flush area with water. Spread sand/grit. Wet area may be slippery. Absorb onto inert material and dispose of according to Hazardous Waste Regulations.

Remove small spills with plenty of water. 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.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage**Precautions for safe handling**

Alkaline. Do not mix with acidic material. Do not get in eyes, on skin, or on clothing. When using, do not eat, drink or smoke. Do not breathe mist or vapor. Provide adequate ventilation. Observe good industrial hygiene practices. Avoid prolonged exposure. Wear appropriate personal protective equipment. Wash contaminated clothing before reuse. Do not taste or swallow. Wash hands thoroughly after handling. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities

Do not freeze. If frozen, thaw completely and mix thoroughly prior to use. Store locked up. Store in corrosive resistant container with a resistant inner liner. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection**Occupational exposure limits****US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|----------------------------------|---------|---------------------|
| Sodium hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m ³ |

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

| Components | Type | Value |
|----------------------------------|---------|---------------------|
| Sodium hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m ³ |

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

| Components | Type | Value |
|----------------------------------|---------|---------------------|
| Sodium hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m ³ |

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

| Components | Type | Value |
|----------------------------------|---------|---------------------|
| Sodium hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m ³ |

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

| Components | Type | Value |
|----------------------------------|---------|---------------------|
| Sodium hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m ³ |

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

| Components | Type | Value |
|----------------------------------|---------|---------------------|
| Sodium hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m ³ |

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

| Components | Type | Value |
|----------------------------------|---------|---------------------|
| Sodium hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m ³ |

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. Good general ventilation 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. 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 | If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | Keep away from food and drink. 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 |
| Color | Colorless |
| Odor | Mild |
| Odor threshold | Not available. |
| pH (concentrated product) | Not available. |
| pH in aqueous solution | 13.4 (5% SOL.) |
| Melting point/freezing point | 50 °F (10 °C) |
| Initial boiling point and boiling range | Not available. |
| Flash point | > 200 °F (> 93 °C) SETA(CC) |
| Evaporation rate | < 1 (Ether = 1) |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 18 mm Hg |
| Vapor pressure temp. | 70 °F (21 °C) |
| Vapor density | < 1 (Air = 1) |
| Relative density | 1.53 |
| Relative density temperature | 70 °F (21 °C) |
| Solubility(ies) | |
| Solubility (water) | 100 % |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | 124 cps |
| Viscosity temperature | 70 °F (21 °C) |
| Other information | |
| Explosive properties | Not explosive. |

| | |
|-----------------------------|-----------------|
| Oxidizing properties | Not oxidizing. |
| Pour point | 55 °F (13 °C) |
| Specific gravity | 1.527 |
| VOC | 0 % (Estimated) |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | May be corrosive to metals. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Contact with strong acids may cause a violent reaction releasing heat. |
| Conditions to avoid | Avoid contact with strong acids. Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Strong acids. Strong oxidizing agents. Metals. |
| Hazardous decomposition products | Elemental oxides |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|---|
| Inhalation | Mists or aerosols cause irritation to upper respiratory tract. Prolonged inhalation may be harmful. |
| Skin contact | Causes severe skin burns. |
| Eye contact | Causes serious eye damage. |
| Ingestion | Causes digestive tract burns. Harmful if swallowed. Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract. |

Symptoms related to the physical, chemical and toxicological characteristics 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.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

| Product | Species | Test Results |
|----------------------------------|---------|--|
| OPTISPERSE ADJ5050 (CAS Mixture) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | 2700 mg/kg, (Calculated according to GHS additivity formula) |
| <i>Oral</i> | | |
| LD50 | Rat | 1000 mg/kg, (Calculated according to GHS additivity formula) |
| Components | Species | Test Results |
| Sodium hydroxide (CAS 1310-73-2) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | 1350 mg/kg |
| <i>Oral</i> | | |
| LD50 | Rabbit | > 500 mg/kg |

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

Sodium hydroxide (CAS 1310-73-2) Irritant

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization This product is not expected to cause skin sensitization.

| | |
|---|--|
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Carcinogenicity | Not classified. |
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. |
| Specific target organ toxicity - single exposure | Not available. |
| Specific target organ toxicity - repeated exposure | Not available. |
| Aspiration hazard | Based on available data, the classification criteria are not met. Aspiration of this product may cause the same corrosiveness/irritation impacts as if it were ingested. |
| Chronic effects | Prolonged or repeated contact may cause tissue necrosis, dermatitis and/or skin sensitisation. Prolonged inhalation may be harmful. |

12. Ecological information

Ecotoxicity

| Product | | Species | Test Results |
|----------------------------------|----------------|----------------|--|
| OPTISPERSE ADJ5050 (CAS Mixture) | | | |
| Aquatic | | | |
| Crustacea | 10% Mortality | Ceriodaphnia | 1785 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted) |
| | 100% Mortality | Daphnia magna | 500 mg/L, Static Screen, 48 hour |
| | 5% Mortality | Daphnia magna | 5000 mg/L, Static Screen, 48 hour, (pH adjusted) |
| | | | 100 mg/L, Static Screen, 48 hour |
| | LC50 | Ceriodaphnia | 2480 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted) |
| | Fish | 0% Mortality | Fathead Minnow |
| | | | 50 mg/L, Static Bioassay with 48-Hour Renewal, 96 hour |
| | | Rainbow Trout | 10000 mg/L, Static Bioassay with 48-Hour Renewal, 96 hour, (pH adjusted) |
| 100% Mortality | | Fathead Minnow | 200 mg/L, Static Bioassay with 48-Hour Renewal, 96 hour |
| 45% Mortality | | Fathead Minnow | 10000 mg/L, Static Bioassay with 48-Hour Renewal, 96 hour, (pH adjusted) |

Bioaccumulative potential No data available.

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

Local disposal regulations Dispose in accordance with all applicable regulations.

Waste from residues / unused products 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). Avoid discharge into water courses or onto the ground.

Contaminated packaging 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

TDG

| | |
|--------------------------------|---------------------------|
| UN number | UN1824 |
| UN proper shipping name | SODIUM HYDROXIDE SOLUTION |

Transport hazard class(es)

Class 8
Subsidiary risk -

Packing group II

Environmental hazards Not available.

The goods described above have been classified using a combination of testing, technical data, calculations and manufacturer knowledge in accordance with Part 2, Classification. TDG Classification is valid for road or rail transport only. For shipment by air or water, refer to IATA or IMDG regulations.

DOT

UN number UN1824
UN proper shipping name Sodium hydroxide solution, RQ
Transport hazard class(es)

Class 8

Packing group II

ERG number 154

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IMDG

UN number UN1824
UN proper shipping name SODIUM HYDROXIDE SOLUTION, RQ
Transport hazard class(es)

Class 8

Subsidiary risk -

Packing group II

Environmental hazards

Marine pollutant No.

EmS F-A, S-B

Special precautions for user Not available.

IATA

UN number UN1824
UN proper shipping name Sodium hydroxide solution
Transport hazard class(es)

Class 8

Subsidiary risk -

Packing group II

Environmental hazards No.

ERG Code 154

Special precautions for user Not available.

DOT



IATA; IMDG; TDG



15. Regulatory information

Canadian regulations

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

Inventory status

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| 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).

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

Registration No. – 140698

Category Code(s):

G1 Water Treatment Products – General

G5 Cooling and retort water treatment products

G6 Boiler treatment products, steam line products – food contact

16. Other information

| | |
|---------------|--|
| Issue date | Mar-21-2016 |
| Revision date | Sep-14-2020 |
| Version # | 2.4 |
| NFPA ratings | Health: 3 Flammability: 0 Instability: 0 |

NFPA ratings



List of abbreviations

CAS: Chemical Abstract Service Registration Number
ACGIH: American Conference of Governmental Industrial Hygienists
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
TLV: Threshold Limit Value

References: No data available

Disclaimer

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

Product and Company Identification: Commercial Names
Hazard identification: Disposal
Composition/information on ingredients: Composition comments
Exposure controls/personal protection: Eye/face protection
Exposure controls/personal protection: Other
Physical & Chemical Properties: Multiple Properties
Stability and reactivity: Incompatible materials
Ecological Information: Ecotoxicity
Other information: Bibliography
GHS: Classification

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