



# DISH MACHINE DETERGENT SAFETY DATA SHEET

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## SECTION 1: Identification

**Product identifier:** Dish Machine Detergent

**Other means of identification:** Dish Machine Detergent

**Product code:** 78101, 78102.

**UN/ID No:** NA 1760

**Recommended use:** Warewashing.

**Recommended restrictions:** Not for personal care.

### Supplier/Distributor information:

**Company name:** Triple S  
**Address:** 2 Executive Park Drive  
Billerica, MA 01862  
**URL:** www.triple-s.com  
**Email:** info@triple-s.com  
**Telephone:** (978)-667-7900  
**Emergency phone number:** (888)-779-1339 (24 hr)

## SECTION 2: Hazard(s) identification

### Classification of the Substance or Mixture:

#### Physical hazards

Corrosive to metals Category 1

#### Health hazards

Acute toxicity, dermal/oral: Category 4  
Skin corrosion/irritation: Category 1B  
Eye damage/irritation: Category 1

### Label elements:



**Signal word:** Danger

### Hazard statements

H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.

**SECTION 2: Hazard(s) identification (continued)****Precautionary statements****Prevention:**

- P101 If medical advice is needed, have product container or label at hand.  
 P102 Keep out of reach of children.  
 P103 Read label before use.  
 P233 Keep container tightly closed.  
 P234 Keep only in original container.  
 P260 Do not breathe mist/vapors/spray.  
 P262 Do not get in eyes, skin, or on clothing.  
 P264 Wash thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this products.  
 P280 Wear protective gloves/protective clothing/eye protection.

**Response:**

- P301+312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P304+P340 IF INHALED: Remove person to fresh air and keep 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.  
 P308+P313 If exposed or concerned: Get medical advice/attention.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P370+P378 In case of fire: Use carbon dioxide, foam, or extinguishing powder to extinguish.

**Storage:**

- P405 Store locked up.  
 P406 Store in corrosive resistant container or in a container with a resistant inner liner.

**Disposal:**

- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise Classified (HNOC):** Not classified

**SECTION 3: Composition/information on ingredients****Substance/Mixture:**

Chemical name	CAS No.	Concentration (%)
Water	7732-18-5	50-65
Potassium hydroxide	1310-58-3	10-20
Diphosphoric acid, tetrapotassium salt	7320-34-5	5-15

## SECTION 4: First-aid measures

### Description of first aid measures

**General advice:** Remove victims from the danger zone without endangering your own safety. Remove contaminated clothing (including underwear and shoes) immediately.

**Inhalation:** Bring accident victims out into the fresh air. Call a physician immediately.

**Skin contact:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before re-use. After contact with small amounts get medical attention if any discomfort or irritation continues. For large amounts, obtain medical attention.

**Eye contact:** Immediately flush eyes with gentle but large stream of water or eye wash solution for at least 15 minutes, lifting lower and upper eyelids occasionally. If possible remove any contact lenses and continue to wash. Call a physician, immediately.

**Ingestion:** If swallowed, rinse mouth with water (only if the person is conscious). Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. DO NOT induce vomiting unless directed to do so by medical personnel. Call a physician, immediately.

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

**Notes to physician:** The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation:** Excessive inhalation of vapors can cause nasal and respiratory damage, dizziness, weakness, fatigue, nausea, vomiting, diarrhea, and possible unconsciousness. Severe exposures can lead to a chemical pneumonitis.

**Ingestion:** Corrosive. May cause sore throat, abdominal pain, nausea, and severe burns of the mouth, throat, and stomach. May affect the urinary system, liver, and blood.

**Skin contact/irritation:** Contact with vapors, mists, and liquid are corrosive to the skin, and may cause permanent skin damage, redness, pain and severe skin burns.

**Eye contact:** Liquid and mist are corrosive to the eyes. May cause redness, pain, blurred vision, eye burns, and permanent eye damage. Brief contact of the liquid causes severe eye burns and possible blindness. May cause corneal damage, conjunctivitis, and/or lachrymation.

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

Cases of eye contact and ingestion should be treated immediately. Have facilities in place to wash skin and eyes in case of exposure. Ingestion damages mucous membranes and tissues of gastro-intestinal tract.

## SECTION 5: Fire-fighting measures

**Suitable extinguishing media:** In case of fire use carbon dioxide (CO<sub>2</sub>), foam, extinguishing powder. Use any means suitable for extinguishing surrounding fire. Applying water to this product may cause splattering of this corrosive liquid. Water spray on large fires may be ineffective but may be used to keep fire-exposed containers cool. If water is used, use in abundance to control heat.

## SECTION 5: Fire-fighting measures (continued)

**Unsuitable extinguishing media:** Do not use water jet as this can spread the fire. Do not use carbon dioxide in enclosed spaces with insufficient ventilation.

**Specific hazards arising from the chemical:** Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Move containers from fire area if you can do so without risk. Product containers can melt in the heat of a fire. Packaging materials will be combustible and provide fuel for the fire.

**Special protective equipment and precautions for fire-fighters:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. During fire-fighting respirator with independent air-supply and airtight garment is required. Fight fire in early stages if safe to do so. Provide ventilation and be wary of hydrogen generation upon reactions with some metals.

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures:** Ventilate area of leak or spill. Ensure adequate ventilation/exhaust extraction. Put on protective equipment (see Section 8). Have emergency procedures in place for treating spillages, evacuating the area and informing the emergency services if necessary. Restrict access to the area until the spillage is treated, if large amounts of vapors are produced that will be hazardous to others, evacuate the area. Non-emergency personnel should be kept away from the area of spillage.

**Environment precautions:** Clean up any spillages immediately; prevent material from spreading and entering drains or sewage systems. Large spillages or uncontrolled discharge to water systems must be alerted to the environmental agency or other regulatory body.

**Methods and materials for containment and cleaning up:** Contain and recover liquid when possible. Small spillages should be absorbed with an inert, non-combustible absorbent. Large Spillages: Dam and absorb spillages with sand, earth or other inert material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Containers with collected spillage must be properly labeled with correct contents and hazard symbol. Flush area clean with lots of water. Be aware of potential for surfaces to become slippery. Ventilate area and allow drying before allowing access.

**Reference to other sections:** Refer to sections 8 and 13 for additional information.

## SECTION 7: Handling and storage

**Precautions for safe handling:** Keep in a closed container and protect from physical damage. Store in a cool, dry, and ventilated area. Keep away from sources of heat, moisture, incompatibilities, and away from direct sunlight. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Do not wash out container and use it for other purposes.

## SECTION 7: Handling and storage (continued)

**Conditions for safe storage, including any incompatibilities:** Store in closed original container at temperatures between 40°F and 80°F. If the product is transferred to another container, this should be made of a compatible material to the original container. Store away from heat, direct sunlight and moisture. Store in a stable situation to avoid spillages. It is advisable to store in a bunded area or use other protective measures such as a sump pallet or storage tray.

**Keep away from:** Strong acids, combustible materials and metals.

**Suitable packaging material:** stainless steel, nickel, polyethylene, polypropylene, glass and stoneware/porcelain.

**Non-suitable packaging material:** lead, aluminum, copper, zinc, bronze, and tin.

## SECTION 8: Exposure control/personal protection

### Control Parameters

**Occupational exposure limits:**

**U.S. ACGIH Threshold Limit Values**

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

Chemical Name	CAS-No.	OSHA PEL	ACGIH- TLV
Potassium hydroxide	1310-58-3	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>
Diphosphoric acid, tetrapotassium salt	7320-34-5	15 mg/m <sup>3</sup> (total dust) 8hr TWA	10 mg/m <sup>3</sup> (inhalable) 8hr TWA
		5 mg/m <sup>3</sup> (respirable) 8hr TWA	3 mg/m <sup>3</sup> (respirable) 8hr TWA

### Appropriate engineering controls/ Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the defined exposure limit requirements or guidelines. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition for details.

### Individual protection measures, such as personal protective equipment (PPE)

**Eye Protection:** Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

**Personal respirators (NIOSH Approved):** If the exposure limit is exceeded, a full-face piece respirator with high efficiency dust/mist filter may be worn up to 50 times the exposure limit. Wear suitable respiratory protection when vapors or mists are produced if the Workplace Exposure Limit is exceeded and there is insufficient ventilation or extraction. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. Respirator must be fitted with a cartridge suitable for the chemical of concern. Consult with the supplier as to the compatibility of the equipment with the chemical of concern. CAUTION: Air purifying respirators do not protect the user in oxygen deficient atmospheres, use air supplied system.

**Thermal Hazards:** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations:** Wash hands, change out of clothes as soon as possible. Wash clothes. Shower or bathe as soon as possible.

**Other protective measures:** Have an eye bath and safety shower close by.

## SECTION 9: Physical and chemical properties

<b>Appearance:</b>	Liquid
<b>Color:</b>	Clear
<b>Odor:</b>	No odor
<b>Odor Threshold:</b>	No data available
<b>pH:</b>	13.0 ± 0.5
<b>Melting point/range:</b>	No data available
<b>Boiling point/range:</b>	No data available
<b>Flash point:</b>	No data available
<b>Evaporation rate:</b>	No data available
<b>Flammability (solid, gas):</b>	No data available
<b>Upper/lower flammability of explosive limits:</b>	No data available
<b>Vapour pressure (mm Hg):</b>	No data available
<b>Vapour density (Air=1):</b>	No data available
<b>Relative density:</b>	No data available
<b>Solubility(ies):</b>	Excellent
<b>Partition coefficient (n-octanol/water):</b>	No data available
<b>Auto-ignition temperature:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Viscosity, dynamic:</b>	No data available
<b>Other Information:</b>	This product contains phosphates.

## SECTION 10: Stability and reactivity

**Reactivity and/or chemical stability:** Produces an exothermic reaction with water, produces a violent exothermic reaction with strong acids and reacts with some metals to release hydrogen. If stored and handled in accordance with standard industrial practices no hazardous reactions are known. Product is very stable under normal conditions.

**Possibility of hazardous reactions:** Hazardous polymerization will not occur.

**Conditions to avoid:** Avoid heat, freezing, direct sunlight, and moisture. Avoid storage with incompatible materials. Avoid storage in freezing conditions. Avoid storage near unprotected drainage systems. Avoid storage in an unstable manner or in a situation that would result in exposure to the product. It is advisable to store the product within some form of containment to prevent spillages reaching drainage systems. Do not allow the storage container to be left exposed to the atmosphere.

**Incompatible materials:** Oxidizing or reducing materials, mineral acids, combustible materials, strong acids, reactive metals (i.e., aluminum, tin, zinc, and their alloys) hydrocarbons. Additionally, it is incompatible with organic halogen compounds, organic nitro compounds. Avoid contact with leather and wool. Reactions with various food sugars may form carbon monoxide.

**Hazardous decomposition products:** Reacts with (some) metals and releases highly flammable gases/vapors (hydrogen). On heating: releases corrosive gases/vapors. No hazardous decomposition if stored and handled correctly.

**SECTION 11: Toxicological information**

**Acute toxicity:** Toxicological testing has not been conducted with this material. The toxicology information listed below is based on the components of this material.

Category 4- dermal/oral: Harmful if; in contact with skin and swallowed.

<b>Diphosphoric acid, tetrapotassium salt - Acute Toxicity Estimate (ATE)</b>			
Oral LD <sub>50</sub> 2,980 mg/kg (Rat)	Dermal LD <sub>50</sub> > 7,940 mg/kg (Rabbit)	Eye Irritation 11.1/110.0 (Rabbit)	Skin Irritation 0.5/8.0 (24 h) (Rabbit)

<b>Potassium Hydroxide – Acute Toxicity Estimate (ATE)</b>			
Oral LD <sub>50</sub> 333 mg/kg (Rat)	Irritation Data Eyes (rabbit): 1 mg (24 hr) moderate	Irritation Data Skin (human): 50 mg (24 h) severe	Irritation Data Skin (Rabbit): 50 mg (24 h) severe

**Skin Corrosion/ irritation:** Category 1: Causes severe skin burns and eye damage due to an alkaline pH.

**Serious eye damage/irritation:** Category 1: Causes serious eye damage due to an alkaline pH.

**Respiratory or skin sensitization:** Classification not possible.

**Germ cell mutagenicity:** Classification not possible.      **Carcinogenicity:** Classification not possible.

**Reproductive toxicity:** Classification not possible.

**Specific Target Organ Toxicity - Single Exposure:** Classification not possible.

**Specific Target Organ Toxicity - Repeated Exposure:** Classification not possible.

**Aspiration hazard:** Classification not possible.

**SECTION 12: Ecological information**

**Toxicity:** Do not allow to escape into waterways, wastewater or soil. Ecotoxicological studies of the product are not available. Please find below the data available to us from raw materials:

**Aquatic ecotoxicity:**

<b>Potassium Hydroxide</b>			
LC <sub>50</sub> (Gambusia affini) 179 mg/L (96 h)	TL <sub>m</sub> (mosquito fish) 80ppm/24 h fresh water	EC <sub>50</sub> (Daphnia magna) 60mg/L/48 h	ErC <sub>50</sub> (Selenastrum capricornutum) 61 mg/L/96 h

**Persistence and degradability:** No data available.      **Bioaccumulative potential:** No data available.

**Mobility in soil:** No data available.

**Other adverse effects:** No data available.

## SECTION 13: Disposal considerations

### General information

Do not allow unauthorized disposal to the environment. If operators are exposed to vapors during the disposal process then suitable respiratory protection should be worn. All other personal protective equipment as described in section 8 should be worn.

### Disposal methods:

Avoid unauthorized disposal. Do not dump into any sewers, on the ground, or into any body of water. All disposal practices must be in compliance with federal, state/provincial and local laws and regulations. For a small spill, immediately hose down with cool water and dispose to drain. For a large spill, dike, collect and contact local authorities about disposal.

## SECTION 14: Transport information

<b>UN Number:</b>	NA 1760
<b>UN Proper Shipping Name:</b>	Compound, Cleaning liquid (Potassium Hydroxide)
<b>Transport hazard class(es):</b>	
<b>DOT Hazard Class:</b>	8
<b>DOT Subsidiary Hazard Class:</b>	Not available
<b>Label:</b>	Corrosive
<b>Packing group, if available:</b>	II
<b>Environmental Hazards:</b>	Not available
<b>Special precautions for user:</b>	Not available

Transport in bulk according to Annex II of MARPOL 73/78<sup>3</sup> and the IBC Code <sup>3</sup>: Not applicable

## SECTION 15: Regulatory information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

Unless otherwise noted, no components are SARA TITLE 3 SECTION 313 40 CFR listed materials.

The ingredients of this product are listed on the TSCA inventory.

This product is not made with VOC'S that could cause damage to the ozone layer.

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).



**SECTION 16: Other information including date of preparation or last revision**

**Chemical State:** Liquid      **Chemical Type:** Mixture

3	Health
0	Flammability
1	Physical Hazard
C	Personal Protection

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