AATCC 1993 Standard Reference Detergent - all variants

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Name: AATCC 1993 Standard Reference Detergent - all variants

1.2 Relevant identified uses of the substance or mixture and uses advised against:
   - Product Category: Laundry
   - Relevant identified uses: FOR INDUSTRIAL USE ONLY

1.3 Details of the Supplier of the Safety Data Sheet:
   - Company Name: Korex Chicago
   - Phone Number: +1 (708)458-4890
   - 6200 W. 51st Street
   - Chicago, IL 60638 USA
   - Preparer Name: Crystal Maira

1.4 Emergency telephone number:
   - Emergency Contact: CHEMTREC
   - Phone Number: +1 (800)424-9300

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture:
   - Skin Corrosion/Irritation, Category 2
   - Serious Eye Damage/Eye Irritation, Category 2

2.2 Label Elements:

GHS Signal Word: Warning

Hazard-determining components of labelling:
- Sodium carbonate
- Sodium dodecylbenzene sulfonate
- Sodium silicate

GHS Hazard Phrases:
- H315 - Causes skin irritation. H319 - Causes serious eye irritation.

GHS Precautionary Phrases:
- P264 - Wash hands thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P280 - Wear protective gloves/eye protection.
- P234 - Keep only in original container.

GHS Response Phrases:
- P302+352 - IF ON SKIN: Wash with plenty of soap and water. P332+313 - If skin irritation occurs, get medical advice/attention. P362+313 - If skin irritation persists, get medical advice/attention.
- P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+313 - If eye irritation persists, get medical advice/attention.
- P390 - Absorb spillage to prevent material damage.

GHS Storage and Disposal Phrases:
- P501 - Dispose of contents and containers in accordance with local, regional, national, and international regulations.

GHS format
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)/REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>497-19-8</td>
<td>Sodium carbonate 01-2119485498-19</td>
<td>10.0 -30.0 %</td>
<td>207-838-8</td>
<td>Eye Damage 2A: H319</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>011-005-00-2</td>
<td></td>
</tr>
<tr>
<td>1344-00-9</td>
<td>Silicic acid, aluminum sodium salt 01-2119429887-22</td>
<td>20.0 -40.0 %</td>
<td>215-684-8</td>
<td>No GHS classifications apply.</td>
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<tr>
<td>25155-30-0</td>
<td>Sodium dodecylbenzene sulfonate 01-2120088038-51</td>
<td>10.0 -30.0 %</td>
<td>246-680-4</td>
<td>Eye Damage 1: H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 2: H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox.(O) 4: H302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic (A) 2: H401</td>
</tr>
<tr>
<td>1344-09-8</td>
<td>Sodium silicate 01-2119448725-31</td>
<td>0.1 -1.0 %</td>
<td>215-687-4</td>
<td>Acute Tox.(O) 4: H302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 2: H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eye Damage 2: H318</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

4.1 Description of First Aid Measures:

In Case of Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get immediate medical advice/attention.

In Case of Skin Contact: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical aid if symptoms occur.

In Case of Eye Contact: Check for and remove any contact lenses. Immediately flush eyes with water for at least 15 minutes. Get medical aid if irritation develops or persists.

In Case of Ingestion: Give large amounts of water or milk. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Note for the Doctor: Treat symptomatically and supportively. Show this safety data sheet to the doctor in attendance.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Suitable Extinguishing Media:
Use water spray, dry chemical, carbon dioxide, or appropriate foam.

5.2 Flammable Properties and Hazards:

Hazardous Combustion: High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, and oxides of sodium.

Flash Pt: NA

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data.

5.3 Fire Fighting Instructions:
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH approved (or equivalent), and full protective gear.
SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Protective Precautions, Use proper personal protective equipment as indicated in Section 8. Avoid contact with Protective Equipment eyes, skin, and clothing.
and Emergency

Procedures:

6.2 Environmental Dispose of material in compliance with regulations indicated in Section 13. Precautions:

6.3 Methods and Material For small quantities wear gloves, wipe up with damp cloth, rinse cloth thoroughly and For Containment and allow cloth to dry before laundering.
Cleaning Up:

For larger spills, contain the spill. Use an inert substance to contain and absorb spilled material. Shovel or pump to properly identified waste containers. Seal waste container for disposal. Flush residuals thoroughly as spilled product creates extremely slippery conditions.

Never return spills to original container for re-use.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions To Be Use as directed. Avoid contact with eyes, skin, and clothing.
Taken in Handling:

7.2 Precautions To Be Store in a cool, dry, well-ventilated area away from incompatible substances. Keep Taken in Storing:
container closed when not in use. Protect containers against damage. Never return spills to original container for re-use.

Other Precautions: Handle in accordance with good industrial hygiene and safety practices. Keep out of reach of children.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Chemical Name</th>
<th>Jurisdiction</th>
<th>Recommended Exposure Limits</th>
<th>Notations</th>
</tr>
</thead>
<tbody>
<tr>
<td>497-19-8</td>
<td>Sodium carbonate</td>
<td>ACGIH TLV</td>
<td>TLV: 10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>25155-30-0</td>
<td>Sodium dodecylbenzene sulfonate</td>
<td>ACGIH TLV</td>
<td>TLV: 10 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Derived No-Effect Levels / Predicted No Effect Concentrations:

**DNEL Worker**

<table>
<thead>
<tr>
<th>Value</th>
<th>CAS #</th>
<th>Chemical Name</th>
<th>Jurisdiction</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.000 mg/m³</td>
<td>497-19-8</td>
<td>Sodium carbonate</td>
<td>ACGIH TLV</td>
<td>assessment factor.</td>
</tr>
</tbody>
</table>

**DNEL Consumer**

<table>
<thead>
<tr>
<th>Value</th>
<th>CAS #</th>
<th>Chemical Name</th>
<th>Jurisdiction</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.000 mg/m³</td>
<td>1344-00-9</td>
<td>Silicic acid, aluminum sodium salt</td>
<td>ACGIH TLV</td>
<td>assessment factor.</td>
</tr>
</tbody>
</table>

**DNEL Worker**

<table>
<thead>
<tr>
<th>Value</th>
<th>CAS #</th>
<th>Chemical Name</th>
<th>Jurisdiction</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.000 mg/m³</td>
<td>1344-09-8</td>
<td>Sodium silicate</td>
<td>ACGIH TLV</td>
<td>assessment factor.</td>
</tr>
</tbody>
</table>

**DNEL Worker**

<table>
<thead>
<tr>
<th>Value</th>
<th>CAS #</th>
<th>Chemical Name</th>
<th>Jurisdiction</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1344-09-8</td>
<td>Sodium silicate</td>
<td>ACGIH TLV</td>
<td>medium hazard (no threshold derived)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value</th>
<th>CAS #</th>
<th>Chemical Name</th>
<th>Jurisdiction</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1344-09-8</td>
<td>Sodium silicate</td>
<td>ACGIH TLV</td>
<td>medium hazard (no threshold derived)</td>
</tr>
</tbody>
</table>
### 25155-30-0 Sodium dodecylbenzene sulfonate

<table>
<thead>
<tr>
<th>Effect Type</th>
<th>Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term - Eyes, local effects</td>
<td>260.000 mg/m³</td>
<td>Medium hazard (no threshold derived)</td>
</tr>
<tr>
<td>Long-term - Inhalation, local effects</td>
<td>260.000 mg/m³</td>
<td>Assessment factor</td>
</tr>
<tr>
<td>Long-term - Inhalation, systemic effects</td>
<td>7.850 mg/cm²</td>
<td>Assessment factor</td>
</tr>
<tr>
<td>Long-term - Dermal, local effects</td>
<td>400.000 mg/kg bw/day</td>
<td>ECHA REACH Guidance</td>
</tr>
<tr>
<td>Acute - Inhalation, local effects</td>
<td>260.000 mg/m³</td>
<td>PNEC air</td>
</tr>
<tr>
<td>Acute - Inhalation, systemic effects</td>
<td>260.000 mg/m³</td>
<td>Assessment factor</td>
</tr>
<tr>
<td>Acute - Dermal, local effects</td>
<td>7.850 mg/cm²</td>
<td>ECHA REACH Guidance</td>
</tr>
<tr>
<td>Acute - Dermal, systemic effects</td>
<td>286.000 mg/kg bw/day</td>
<td>ECHA REACH Guidance</td>
</tr>
</tbody>
</table>

### 1344-09-8 Sodium silicate

<table>
<thead>
<tr>
<th>Effect Type</th>
<th>Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term - Inhalation, local effects</td>
<td>260.000 mg/m³</td>
<td>No hazard identified.</td>
</tr>
<tr>
<td>Long-term - Inhalation, systemic effects</td>
<td>260.000 mg/m³</td>
<td>No hazard identified.</td>
</tr>
<tr>
<td>Long-term - Oral, systemic effects</td>
<td>130.000 mg/kg bw/day</td>
<td>ECHA REACH Guidance</td>
</tr>
<tr>
<td>Long-term - Dermal, local effects</td>
<td>7.870 mg/cm²</td>
<td>ECHA REACH Guidance</td>
</tr>
<tr>
<td>Long-term - Dermal, systemic effects</td>
<td>400.000 mg/kg bw/day</td>
<td>ECHA REACH Guidance</td>
</tr>
<tr>
<td>Acute - Inhalation, local effects</td>
<td>260.000 mg/m³</td>
<td>No hazard identified.</td>
</tr>
<tr>
<td>Acute - Inhalation, systemic effects</td>
<td>260.000 mg/m³</td>
<td>No hazard identified.</td>
</tr>
<tr>
<td>Acute - Oral, systemic effects</td>
<td>130.000 mg/kg bw/day</td>
<td>ECHA REACH Guidance</td>
</tr>
<tr>
<td>Acute - Dermal, local effects</td>
<td>7.870 mg/cm²</td>
<td>ECHA REACH Guidance</td>
</tr>
<tr>
<td>Acute - Dermal, systemic effects</td>
<td>286.000 mg/kg bw/day</td>
<td>ECHA REACH Guidance</td>
</tr>
</tbody>
</table>

### PNEC

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>aquatic, sediment, freshwater</td>
<td></td>
<td>No hazard identified.</td>
</tr>
<tr>
<td>aquatic, sediment, marine water</td>
<td></td>
<td>No hazard identified.</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
AATCC 1993 Standard Reference Detergent - all variants

aquatic, freshwater 7.500 mg/L ECHA REACH Guidance.
air no hazard identified.
aquatic, marine water 1.000 mg/L ECHA REACH Guidance.
predators, secondary poisoning no potential for bioaccumulation.
soil no hazard identified.
aquatic, STP 348.000 mg/L assessment factor.

25155-30-0 Sodium dodecylbenzene sulfonate

<table>
<thead>
<tr>
<th>PNEC</th>
<th>Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>aquatic, sediment, freshwater</td>
<td>27.500  mg/kg sediment</td>
<td>assessment factor.</td>
</tr>
<tr>
<td>aquatic, sediment, marine water</td>
<td>2.750   mg/kg sediment</td>
<td>assessment factor.</td>
</tr>
<tr>
<td>aquatic, freshwater</td>
<td>0.693   mg/L</td>
<td>assessment factor.</td>
</tr>
<tr>
<td>air</td>
<td>10.000  mg/m³</td>
<td>PNEC air.</td>
</tr>
<tr>
<td>aquatic, marine water</td>
<td>1.000   mg/L</td>
<td>assessment factor.</td>
</tr>
<tr>
<td>predators, secondary poisoning</td>
<td>20.000  mg/kg food</td>
<td>ECHA REACH Guidance.</td>
</tr>
<tr>
<td>soil</td>
<td>25.000  mg/kg soil dw</td>
<td>assessment factor.</td>
</tr>
<tr>
<td>aquatic, STP</td>
<td>50.000  mg/L</td>
<td>assessment factor.</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Engineering Controls (Ventilation etc.):
Use adequate ventilation to keep airborne concentrations low. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

8.2.2 Personal protection equipment:

Eye Protection: Chemical safety goggles.
Protective Gloves: Wear appropriate protective gloves to prevent skin exposure.
Other Protective Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respiratory Equipment Not required under normal use conditions.
Work/Hygienic/Maintenance Practices: Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice. Wash hands after handling the material and before eating, drinking, and/or smoking.
Exposure Scenarios: No data available.
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Physical States: [ ] Gas [ ] Liquid [ X ] Solid


pH: 10.5 - 11.5

Melting Point: NA

Boiling Point: NA

Flash Pt: NA

Evaporation Rate: NA

Saturated Vapor Concentration: NA

Flammability (solid, gas): No data available.

Explosive Limits: LEL: No data. UEL: No data.

Vapor Pressure (vs. Air or mm Hg): NA

Vapor Density (vs. Air = 1): NA

Specific Gravity (Water = 1): NA

Density: NA

Solubility in Water: Complete

Octanol/Water Partition Coefficient: No data.

Autoignition Pt: No data.

Decomposition Temperature: No data.

Viscosity: NA

9.2 Other Information

9.2.1 Information with regard to physical hazard classes

Information with regard to primary physical hazard:

9.2.2 Other safety characteristics

Percent Volatile: No data.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity: Not reactive at normal temperatures and pressures.

10.2 Stability: Unstable [ ] Stable [ X ]

10.3 Conditions To Avoid - Hazardous Reactions:

Possibility of Hazardous Reactions:

Will occur [ ] Will not occur [ X ]

10.4 Conditions To Avoid - Instability:

Incompatible materials, Stable under normal temperatures and pressures.

10.5 Incompatibility - Materials To Avoid:

Acids.

10.6 Hazardous Decomposition or Byproducts:

High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, and oxides of: sodium.
SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:
- Epidemiology: No information available.
- Teratogenicity: No information available.
- Reproductive Effects: No information available.
- Mutagenicity: No information available.
- Neurotoxicity: No information available.

Other Studies:
- CAS# 1344-09-8: Acute toxicity, LD50, Oral, Rat, 1100 - 1600 mg/kg
- CAS# 1344-00-9: Acute toxicity, LD50, Oral, Rat, > 5,000 mg/kg.
- CAS# 497-19-8: Acute toxicity, LD50, Oral, Rat, 2800 mg/kg
- CAS# 25155-30-0: Acute toxicity, LD50, Oral, Rat, 438.0 mg/kg.

Irritation or Corrosion:
- May cause mild skin irritation. May cause moderate eye irritation.

Symptoms related to Toxicological Characteristics:
- Not expected.

Chronic Toxicological Effects:
- No long term effects have been reported.

Sensitization:
- NTP? No
- IARC Monographs? No
- OSHA Regulated? No

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity:
- Environmental: No information available.
- Physical: No information available.

Other Studies:
- CAS# 1344-00-9: LC50, Water Flea (Daphnia magna), 1,000,000 - 1,800,000 ug/L, 48H
  LC50, Medaka High Eyes (Oryzias latipes), 3,200,000 - 5,600,000 ug/L, 96H.

- CAS# 1344-09-8: LC50, Water Flea (Daphnia magna), 216000 ug/L, 96H
  LC50, Western Mosquitofish (Gambusia affinis), adult(s), 1800000 ug/L, 96H.

- CAS# 25155-30-0: LC50, Bluegill (Lepomis macrochirus), 3450 ug/L, 24H, Mortality
  LC50, Water Flea (Daphnia pulex), 19870.0 ug/L, 48H, Mortality
  LC50, Minnow (Phoxinus phoxinus), 6000 ug/L, 24H, Mortality
  LC50, Catfish (Rita rita), 6000 ug/L, 96H, Mortality

- CAS# 497-19-8: LC50, Water Flea (Daphnia magna), 265,000 ug/L, 48H
  LC50, Fathead Minnow (Pimephales promelas), 850,000 ug/L, 96H
  LC50, Western Mosquitofish (Gambusia affinis), adult(s), 740000 ug/L, 96H
12.2 Persistence and Degradability: No data available.
12.3 Bioaccumulative Potential: During sewage treatment there is microbial degradation to carbon dioxide and also absorption to the particulate sludge. The absorbed portion is subsequently biodegraded when the sludge is disposed of.
12.4 Mobility in Soil: No data available.
12.5 Results of PBT and vPvB assessment: No data available.
12.6 Other adverse effects: Under normal and foreseeable uses, there are no concerns for aquatic organisms exposed to product ingredients at the anticipated environmental concentrations.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Method: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Dispose of contents and containers in accordance with local, regional, national, and international regulations.

SECTION 14. TRANSPORT INFORMATION

14.1 LAND TRANSPORT (European ADR/RID):
ADR/RID Shipping Name: Not Regulated.
UN Number: Hazard Class:

14.2 MARINE TRANSPORT (IMDG/IMO):
IMDG/IMO Shipping Name: Not Regulated.
UN Number: Packing Group:
Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):
ICAO/IATA Shipping Name: Not Regulated.
UN Number: Packing Group:
Hazard Class:

SECTION 15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
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<tbody>
<tr>
<td>497-19-8</td>
<td>Sodium carbonate</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>1344-00-9</td>
<td>Silicic acid, aluminum sodium salt</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>25155-30-0</td>
<td>Sodium dodecylbenzene sulfonate</td>
<td>No</td>
<td>Yes NA</td>
<td>No</td>
</tr>
<tr>
<td>1344-09-8</td>
<td>Sodium silicate</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
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</thead>
<tbody>
<tr>
<td>497-19-8</td>
<td>Sodium carbonate</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; NC TAP: No; SC TAP: No</td>
</tr>
<tr>
<td>1344-00-9</td>
<td>Silicic acid, aluminum sodium salt</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; NC TAP: No; SC TAP: No</td>
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<tr>
<td>25155-30-0</td>
<td>Sodium dodecylbenzene sulfonate</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; NC TAP: No; SC TAP: No</td>
</tr>
<tr>
<td>1344-09-8</td>
<td>Sodium silicate</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; NC TAP: No; SC TAP: No</td>
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</table>
SECTION 16. OTHER INFORMATION

Revision Date: 01/26/2021

Hazard Rating System:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLAMMABILITY</td>
<td>1</td>
</tr>
<tr>
<td>REACTIVITY</td>
<td>0</td>
</tr>
<tr>
<td>PPE</td>
<td></td>
</tr>
</tbody>
</table>

Additional Information:

12/03/2020 - Routine review and updated for Mexican compliance.
01/26/2021 - Updated for REACH compliance.