

## 1. Product and Company Identification

**Product Name** FINISH® Quantum® - All Variants

**CAS #** Mixture

**This MSDS is designed for workplace employees, emergency personnel and for other conditions and situations where there is a greater potential for large-scale or prolonged exposure, in accordance with requirements of the U.S. Government's Occupational Safety and Health Administration (OSHA).**

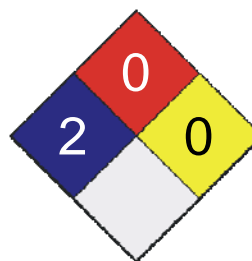
**This MSDS is not applicable for consumer use of our products. For consumer use, all precautionary and first aid language is provided on the product label in accordance with the applicable government regulation.**

**Product Use** Dishwasher detergent

**Distributed by** Reckitt Benckiser  
 Morris Corporate Center IV  
 399 Interpace Parkway  
 P.O. Box 225  
 Parsippany, NJ 07054-0225  
 In Case of Emergency: 1-800-338-6167  
 Transportation Emergencies: 24 Hour Number:  
 North America: CHEMTREC: 1-800-424-9300  
 Outside North America: 1-703-527-3887

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	* 2
Flammability	0
Physical Hazard	0
Personal Protection	B



## 2. Hazards Identification

**Emergency overview** KEEP OUT OF REACH OF CHILDREN.

NOTICE: PRODUCT MAY POSE A CHOKING HAZARD TO CHILDREN UNDER 3 YEARS OF AGE.

CAUTION  
 HARMFUL IF SWALLOWED.  
 EYE IRRITANT.  
 DO NOT ingest.  
 DO NOT get in eyes.

**Potential short term health effects**

**Routes of exposure** Eye, Skin contact, Inhalation, Ingestion.

**Eyes** Irritating to eyes.

**Skin** None expected during normal conditions of use.  
 Not expected to be a skin sensitizer.

**Inhalation** Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Ingestion** Harmful if swallowed.

**Target organs** Skin. Eyes.

**Chronic effects** The finished product is not expected to have chronic health effects.

**Signs and symptoms** Symptoms may include redness, edema, drying, defatting and cracking of the skin.

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

**Potential environmental effects** See section 12.

### 3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Sodium carbonate	497-19-8	20 - 40
Acetic acid ethenyl ester, polymer with ethenol	25213-24-5	2.5 - 10
Alcohols, C12-15, ethoxylated propoxylated	68551-13-3	2.5 - 10
Sodium citrate	6132-04-3	10 - 20
Sodium percarbonate	15630-89-4	10 - 20
Alpha-D-Glucopyranoside, beta-D-fructofuranosyl	57-50-1	0.1 - 1
Subtilisin carlsburg	9014-01-1	0.1 - 1
Titanium oxide	13463-67-7	0 - 0.1
A-Amylase (EC# 3.2.1.1)	9000-90-2	< 0.1

### 4. First Aid Measures

#### First aid procedures

<b>Eye contact</b>	If in eyes, IMMEDIATELY rinse eyes with water. Remove any contact lenses and continue rinsing eyes for at least 15 minutes. If irritation persists, get medical attention.
<b>Skin contact</b>	Get medical attention immediately. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
<b>Inhalation</b>	Move exposed person to fresh air. Get medical attention immediately.
<b>Ingestion</b>	If swallowed, rinse mouth and drink a glass of water. Call a Physician or Poison Control Center. DO NOT INDUCE VOMITING. Wash out mouth with water.

#### Notes to physician

Treat patient symptomatically.

#### General advice

If you feel unwell, seek medical advice (show the label where possible). 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. Avoid contact with eyes and skin. Keep out of reach of children.

### 5. Fire Fighting Measures

<b>Flammable properties</b>	Not flammable by OSHA criteria.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Treat for surrounding material.
<b>Unsuitable extinguishing media</b>	Not available
<b>Protection of firefighters</b>	
<b>Specific hazards arising from the chemical</b>	Not available
<b>Protective equipment for firefighters</b>	Firefighters should wear full protective clothing including self contained breathing apparatus.
<b>Hazardous combustion products</b>	May include and are not limited to: Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Some metallic oxides.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	Not available
<b>Sensitivity to static discharge</b>	Not available

### 6. Accidental Release Measures

<b>Personal precautions</b>	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
<b>Environmental precautions</b>	Do not discharge into lakes, streams, ponds or public waters. Advise authorities if product has penetrated drains, sewers or water pipes.
<b>Methods for containment</b>	Prevent entry into waterways, sewers, basements or confined areas. Stop leak if you can do so without risk.

**Methods for cleaning up**

Before attempting clean up, refer to hazard data given above. Use broom or dry vacuum to collect material for proper disposal without raising dust. Rinse area with water. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice.

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## 7. Handling and Storage

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**Handling**

Ensure adequate ventilation.  
Avoid contact with eyes, skin, clothing and contamination of food.  
Do not ingest.  
Use good industrial hygiene practices in handling this material.  
When using do not eat or drink.  
Wash hands before breaks and immediately after handling the product.  
Do not reuse the empty container.  
Do not pierce or attempt to unwrap capsules.

**Storage**

Keep out of reach of children.  
Store in a closed container away from incompatible materials.  
Keep container tightly closed in a cool, dry and well-ventilated place.  
Keep in properly labelled containers.  
Keep away from direct sunlight.  
Protect from freezing.  
Protect from water and heat.  
Store between 15°C (56°F) and 30°C (86°F).

## 8. Exposure Controls / Personal Protection

### Exposure limits

Ingredient(s)	Exposure Limits
A-Amylase (EC# 3.2.1.1)	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Acetic acid ethenyl ester, polymer with ethenol	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Alcohols, C12-15, ethoxylated propoxylated	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Alpha-D-Glucopyranoside, beta-D-fructofuranosyl	<b>ACGIH-TLV</b> TWA: 10 mg/m <sup>3</sup> <b>OSHA-PEL</b> TWA: 15 mg/m <sup>3</sup>
Sodium carbonate	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Sodium citrate	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Sodium percarbonate	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Subtilisin carlsburg	<b>ACGIH-TLV</b> Ceiling: 0.0001 mg/m <sup>3</sup> <b>OSHA-PEL</b> Not established
Titanium oxide	<b>ACGIH-TLV</b> TWA: 10 mg/m <sup>3</sup> <b>OSHA-PEL</b> TWA: 15 mg/m <sup>3</sup>

### Engineering controls

General ventilation normally adequate.

### Personal protective equipment

**Consult the product label for special protection or precautions that have been identified for using this product under directed consumer use conditions. The following recommendations are given for workplace employees, emergency personnel and for other conditions and situations where there is a greater potential for large-scale or prolonged exposure.**

### Eye / face protection

tightly fitting safety goggles  
Emergency responders should wear full eye and face protection.

<b>Hand protection</b>	PVC disposable gloves. Emergency responders should wear impermeable gloves.
<b>Skin and body protection</b>	Usual safety precautions while handling the product will provide adequate protection against injury or irritation. Follow label directions carefully. Emergency responders should wear impermeable clothing and footwear when responding to a situation where contact with the liquid is possible.
<b>Respiratory protection</b>	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Emergency responders should wear self-contained breathing apparatus (SCBA) to avoid inhalation of vapours generated by this product during a spill or other clean-up operations.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Washing with soap and water after use is recommended as good hygienic practice to prevent possible eye irritation from hand contact.

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## 9. Physical and Chemical Properties

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<b>Appearance</b>	Tablet
<b>Color</b>	White / Blue / Red / Yellow
<b>Form</b>	Liquid gel in a soluble capsule
<b>Odor</b>	Various
<b>Odor threshold</b>	Not available
<b>Physical state</b>	Solid
<b>pH</b>	10.5 (10%)
<b>Freezing point</b>	Not available
<b>Boiling point</b>	Not available
<b>Pour point</b>	Not available
<b>Evaporation rate</b>	Not available
<b>Flash point</b>	> 212.00 °F (> 100 °C)
<b>Auto-ignition temperature</b>	Not available
<b>Flammability limits in air, lower, % by volume</b>	Not applicable
<b>Flammability limits in air, upper, % by volume</b>	Not applicable
<b>Vapor pressure</b>	Not available
<b>Vapor density</b>	Not available
<b>Specific gravity</b>	Not available
<b>Octanol/water coefficient</b>	Not available
<b>Solubility (H2O)</b>	Complete

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## 10. Stability and Reactivity

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<b>Reactivity</b>	This product may react with strong oxidizing agents.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	DO NOT MIX WITH BLEACH or use in conjunction with other household products. Extremes of temperature and direct sunlight. Exposure to water or water vapor. Keep away from extreme heat. Keep from freezing.
<b>Incompatible materials</b>	Oxidizers.
<b>Hazardous decomposition products</b>	May include and are not limited to: Oxides of carbon. Oxides of sulfur. Oxides of nitrogen.

## 11. Toxicological Information

### Component analysis - LC50

Ingredient(s)	LC50
A-Amylase (EC# 3.2.1.1)	Not available
Acetic acid ethenyl ester, polymer with ethenol	Not available
Alcohols, C12-15, ethoxylated propoxylated	Not available
Alpha-D-Glucopyranoside, beta-D-fructofuranosyl	Not available
Sodium carbonate	400 mg/m <sup>3</sup> guinea pig
Sodium citrate	Not available
Sodium percarbonate	Not available
Subtilisin carlsburg	Not available
Titanium oxide	Not available

### Component analysis - Oral LD50

Ingredient(s)	LD50
A-Amylase (EC# 3.2.1.1)	7500 mg/kg rat
Acetic acid ethenyl ester, polymer with ethenol	5000 mg/kg rat
Alcohols, C12-15, ethoxylated propoxylated	1200 mg/kg rat
Alpha-D-Glucopyranoside, beta-D-fructofuranosyl	29700 mg/kg rat
Sodium carbonate	4090 mg/kg rat
Sodium citrate	Not available
Sodium percarbonate	2200 mg/kg mouse; 1034 mg/kg rat
Subtilisin carlsburg	Not available
Titanium oxide	24000 mg/kg rat

### Effects of acute exposure

<b>Eye</b>	Irritating to eyes.
<b>Skin</b>	None expected during normal conditions of use. Not expected to be a skin sensitizer.
<b>Inhalation</b>	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Ingestion</b>	Harmful if swallowed.
<b>Sensitization</b>	The finished product is not expected to have chronic health effects.
<b>Chronic effects</b>	The finished product is not expected to have chronic health effects.
<b>Carcinogenicity</b>	The finished product is not expected to have chronic health effects.
<b>Mutagenicity</b>	The finished product is not expected to have chronic health effects.
<b>Reproductive effects</b>	The finished product is not expected to have chronic health effects.
<b>Teratogenicity</b>	The finished product is not expected to have chronic health effects.
<b>Name of Toxicologically Synergistic Products</b>	Not available

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## 12. Ecological Information

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**Ecotoxicity** See below

**Ecotoxicity - Freshwater Algae - Acute Toxicity Data**

Sodium carbonate 497-19-8 120 Hr EC50 Nitzschia: 242 mg/L  
Sodium percarbonate 15630-89-4 240 Hr EC50 Chlorella emersonii: 70 mg/L

**Ecotoxicity - Freshwater Fish - Acute Toxicity Data**

Sodium carbonate 497-19-8 96 Hr LC50 Lepomis macrochirus: 300 mg/L [static]; 96 Hr LC50 Pimephales promelas: 310 - 1220 mg/L [static]  
Sodium percarbonate 15630-89-4 96 Hr LC50 Pimephales promelas: 70.7 mg/L [static]

**Ecotoxicity - Water Flea - Acute Toxicity Data**

Sodium carbonate 497-19-8 48 Hr EC50 Daphnia magna: 265 mg/L  
Sodium percarbonate 15630-89-4 48 Hr EC50 Daphnia pulex: 4.9 mg/L

**Persistence / degradability** Not available

**Bioaccumulation / accumulation** Not available

**Mobility in environmental media** Not available

**Environmental effects** Not available

**Aquatic toxicity** Not available

**Partition coefficient** Not available

**Chemical fate information** Not available

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## 13. Disposal Considerations

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**Disposal instructions** Dispose in accordance with all applicable regulations.  
Empty containers should be recycled.

**Waste from residues / unused products** Not available

**Contaminated packaging** Not available

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## 14. Transport Information

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**UN/ID N.o.** Not applicable

**U.S. Department of Transportation (DOT): Classification:** Not regulated

**Proper shipping name** Not applicable

**U.S. DOT Hazard Class** Not applicable

**Subsidiary Risk** Not applicable

**Packing group** Not applicable

**DOT RQ (lbs)** Not applicable

**ERG NO** Not applicable

**Transportation of Dangerous Goods (TDG - Canada): Classification:** Not regulated

**Proper shipping name** Not applicable

**Status** Not applicable

**Packing group** Not applicable

**IMDG (Marine Transport): Classification:** Not regulated

<b>Proper shipping name</b>	Not applicable
<b>Class</b>	Not applicable
<b>Subsidiary Risk</b>	Not applicable
<b>Packing group</b>	Not applicable
<b>IMDG Page</b>	Not applicable
<b>Marine pollutant</b>	Not applicable
<b>EMS</b>	Not applicable
<b>MFAG</b>	Not applicable
<b>Maximum Quantity</b>	Not applicable

**IATA/ICAO (Air): Classification:** Not regulated

<b>Proper shipping name</b>	Not applicable
<b>Class</b>	Not applicable
<b>Subsidiary Risk:</b>	Not applicable
<b>Packing group</b>	Not applicable
<b>Maximum Quantity</b>	Not applicable

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## 15. Regulatory Information

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**Occupational Safety and Health Administration (OSHA)**

**29 CFR 1910.1200 hazardous chemical** Yes

**US Federal regulations**

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

Product Registration: Product is compliant with CPSC regulatory guidelines; a specific registration is not required for this product.

**CERCLA (Superfund) reportable quantity**

None

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

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**Section 302 extremely hazardous substance** No

**Section 311 hazardous chemical** No

**Clean Water Act (CWA)** Not available

**State regulations**

This product is not subject to warning labeling under the California Proposition 65 regulation.

**U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances**

Subtilisin carlsburg 9014-01-1 Present

**U.S. - Illinois - Toxic Air Contaminant Carcinogens**

Titanium oxide 13463-67-7 IARC 2B Carcinogen

**U.S. - Massachusetts - Right To Know List**

Alpha-D-Glucopyranoside, 57-50-1 Present (dust)

beta-D-fructofuranosyl

Titanium oxide 13463-67-7 Present

**U.S. - Minnesota - Hazardous Substance List**

Alpha-D-Glucopyranoside, 57-50-1 Present (dust)

beta-D-fructofuranosyl

Titanium oxide 13463-67-7 Present (dust)

**U.S. - New Jersey - Right to Know Hazardous Substance List**

Titanium oxide 13463-67-7 sn 1861

**U.S. - Pennsylvania - RTK (Right to Know) List**

Alpha-D-Glucopyranoside, 57-50-1 Present

beta-D-fructofuranosyl

Titanium oxide 13463-67-7 Present

**U.S. - Rhode Island - Hazardous Substance List**

Alpha-D-Glucopyranoside, 57-50-1 Toxic

beta-D-fructofuranosyl

Titanium oxide 13463-67-7 Toxic

**Inventory status**

Country(s) or region	Inventory name	On inventory (yes/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)

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## 16. Other Information

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**Disclaimer**

This product should only be used as directed on the label and for the purpose intended. To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**Further information**

FINISH® QUANTUM® - Original - 0375595v3.0  
 FINISH® QUANTUM® - Baking Soda - 8036496v2.0  
 FINISH® QUANTUM® - Lemon Sparkle - 8036461v3.0

**Issue date**

16-Jan-2013

**Effective date**

15-Jan-2013

**Prepared by**

Reckitt Benckiser Regulatory Department 800-333-3899

**Other information**

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.  
 This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.