

# Material Safety Data Sheet



FORMULA 1

## Section 1. Chemical product and company identification

**Trade name** : FORMULA 1  
**Product use** : Laundry detergent  
**Supplier** : Ecolab Inc. Institutional Division  
370 N. Wabasha Street  
St. Paul, MN 55102  
1-800-352-5326  
**Code** : 905160  
**Date of issue** : 21-November-2007

**EMERGENCY HEALTH INFORMATION: 1-800-328-0026**  
**Outside United States and Canada CALL 1-651-222-5352 (in USA)**

## Section 2. Composition, information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>% by weight</u>
triphosphoric acid, pentasodium salt	7758-29-4	23
alcohols, c12-16, ethoxylated	68551-12-2	20 - 50
sodium carbonate	497-19-8	5 - 20
2-aminoethanol	141-43-5	5 - 20
boric acid	10043-35-3	1 - 5
subtilisin	9014-01-1	<1

## Section 3. Hazards identification

**Physical state** : Liquid. [slurry]  
**Emergency overview** : WARNING !  
CAUSES SEVERE EYE AND SKIN IRRITATION.  
Untreated contact may cause severe irritation or chemical burns.  
CAUSES RESPIRATORY TRACT IRRITATION.  
MAY CAUSE ALLERGIC RESPIRATORY REACTION.  
HARMFUL IF SWALLOWED.  
Do not ingest. Do not get in eyes, on skin or on clothing. Do not breathe vapor or spray.  
Wash thoroughly after handling.

### Potential acute health effects

**Eyes** : Severely irritating to eyes. Untreated contact may cause chemical burns.  
**Skin** : Severely irritating to the skin. Untreated contact may cause severe irritation or chemical burns.  
**Inhalation** : Irritating to respiratory system. May cause sensitization by inhalation.  
**Ingestion** : May cause burns to mouth, throat and stomach.

See toxicological information (section 11)

## Section 4. First aid measures

**Eye contact** : In case of contact, immediately flush eyes with cool running water. Remove contact lenses and continue flushing with plenty of water for at least 15 minutes. Get medical attention immediately.

**Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Ingestion** : If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

## Section 5. Fire fighting measures

- Flash point** : > 100°C  
Product does not support combustion.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon oxides  
nitrogen oxides  
phosphorus oxides  
metal oxide/oxides
- Fire-fighting media and instructions** : Use an extinguishing agent suitable for the surrounding fire.  
  
Dike area of fire to prevent runoff.  
No specific fire or explosion hazard.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Stop leak if without risk. Use suitable protective equipment. Keep unnecessary personnel away. Do not touch or walk through spilled material.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal.

## Section 7. Handling and storage

- Handling** : Do not ingest. Do not get in eyes, on skin, or on clothing. Do not breathe vapor or spray. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
- Storage** : Keep out of reach of children. Keep container in a cool, well-ventilated area. Keep container tightly closed.  
Store between the following temperatures: 0 and 40°C

## Section 8. Exposure controls, personal protection

- Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

### Personal protection :

- Eyes** : Due to the form and packaging of the product, no protective equipment is needed under normal use conditions.
- Hands** : Due to the form and packaging of the product, no protective equipment is needed under normal use conditions.
- Skin** : Due to the form and packaging of the product, no protective equipment is needed under normal use conditions.
- Respiratory** : Due to the form and packaging of the product, no protective equipment is needed under normal use conditions.

Name Exposure limits

2-aminoethanol	<p><b>ACGIH TLV (United States, 1/2007).</b>            STEL: 15 mg/m<sup>3</sup> 15 minute(s).            STEL: 6 ppm 15 minute(s).            TWA: 7.5 mg/m<sup>3</sup> 8 hour(s).            TWA: 3 ppm 8 hour(s).</p> <p><b>OSHA PEL (United States, 11/2006).</b>            TWA: 6 mg/m<sup>3</sup> 8 hour(s).            TWA: 3 ppm 8 hour(s).</p>
boric acid	<p><b>ACGIH TLV (United States, 1/2007).</b>            STEL: 6 mg/m<sup>3</sup> 15 minute(s).            TWA: 2 mg/m<sup>3</sup> 8 hour(s).</p>
subtilisin	<p><b>ACGIH TLV (United States, 1/2007).</b>            C: 0.00006 mg/m<sup>3</sup>, (Measured as 100% pure crystalline enzyme)</p>

## Section 9. Physical and chemical properties

<b>Physical state</b>	: Liquid. [slurry]
<b>Color</b>	: Tan. [Light]
<b>Odor</b>	: Fragrance-like.
<b>pH</b>	: 10 to 11 [Conc. (% w/w): 100%]
<b>Boiling/condensation point</b>	: >100°C (>212°F)
<b>Specific gravity</b>	: 1.2 to 1.6
<b>Dispersibility properties</b>	: Partially dispersible in cold water, hot water.
<b>Solubility</b>	: Partially soluble in cold water, hot water.

## Section 10. Stability and reactivity

<b>Stability</b>	: The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.
<b>Reactivity</b>	: Reactive with metals, acids. Slightly reactive to reactive with organic materials.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Potential acute health effects

<b>Eyes</b>	: Severely irritating to eyes. Untreated contact may cause chemical burns.
<b>Skin</b>	: Severely irritating to the skin. Untreated contact may cause severe irritation or chemical burns.
<b>Inhalation</b>	: Irritating to respiratory system. May cause sensitization by inhalation.
<b>Ingestion</b>	: May cause burns to mouth, throat and stomach.

### Potential chronic health effects

<b>Target organs</b>	: Contains material which causes damage to the following organs: kidneys, liver. Contains material which may cause damage to the following organs: upper respiratory tract, central nervous system (CNS).
<b>Reproductive effects</b>	: Contains material which may cause reproductive effects based on animal data.

## Section 12. Ecological information

## Section 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Consult your local or regional authorities.

## Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Additional information
DOT Classification	UN2491	Ethanolamine solutions	8	III	Not available.

### APPLIES ONLY DURING ROAD TRANSPORT

Any variation of the shipping description based on the packaging is not addressed.

## Section 15. Regulatory information

- HCS Classification** : Irritating material  
Sensitizing material  
Target organ effects
- U.S. Federal regulations** : **United States inventory (TSCA 8b)**: All components are listed or exempted.  
SARA 302/304/311/312 extremely hazardous substances: No products were found.  
SARA 302/304 emergency planning and notification: No products were found.
- California Prop. 65** : No products were found.

## Section 16. Other information

<b>Hazardous Material Information System (U.S.A.)</b> :	Health	*	2
	Flammability		0
	Physical hazards		0

- Date of issue** : 21-November-2007.
- Responsible name** : Regulatory Affairs
- Date of previous issue** : 22-October-2007.

### Notice to reader

The above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, **NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.**