

<b>Product Name</b>	<b>BIO-SOFT<sup>®</sup> TA-2</b>
<b>Chemical Description</b>	Tallow Amine Ethoxylate
<b>CAS Registry No.</b>	61791-26-2
<b>Applications</b>	BIO-SOFT TA-2 functions primarily as an acid thickener. Acid cleaners thickened with BIO-SOFT TA-2 are clear, viscosity stable and prone to splash less. They provide good surface cling, prolong contact time and improve cleaning. BIO-SOFT TA-2 is ideal for cleaners used on vertical surfaces, such as vehicles, toilet bowls, and dairy, brewery and food processing equipment. BIO-SOFT TA-2 also provides added benefits such as wetting, foam, emulsification and corrosion inhibition. It is compatible with quaternary biocides.
<b>Typical Properties</b>	Appearance at 25°C ..... Opaque semi-liquid Viscosity at 38°C, cps ..... 70 HLB, calculated ..... 5 Moisture, % ..... 0.1 pH, 5% in 1:1 IPA/H <sub>2</sub> O ..... 9.8 Pour Point, °C (°F) ..... 21 (70) Density, g/ml (lbs/U.S. gal) at 38°C ..... 0.89 (7.4)* Flash Point, PMCC, °C (°F) ..... >94 (>201) RVOC, U.S. EPA, % ..... 0 Preservative ..... Not required
<b>Other Data</b>	DOT Classification ..... Corrosive
<b>Environmental Effects</b>	BIO-SOFT TA-2 is biodegradable. Additional information is available upon request.
<b>Health Effects</b>	BIO-SOFT TA-2 is slightly toxic orally (LD <sub>50</sub> ~ 1200 mg/kg). When tested undiluted, the product is corrosive to skin and eyes.
<b>Storage &amp; Handling</b>	Normal safety precautions (i.e gloves and safety goggles) should be employed when handling BIO SOFT TA-2. Contact with the eyes and prolonged contact with the skin should be avoided. Wash thoroughly after handling materials.  Bulk Storage Information: Stainless steel and glass fiber-reinforced polyester tanks are recommended. Many oven-cured phenolic and epoxy/phenolic linings may also be used. Elevated storage temperature may be desirable to maintain ease of pumping. Temperatures up to 130°F (54°C) can be maintained for long periods of time without degradation of the product.  If stored in drums at temperatures below 60°F (16°C), BIO SOFT TA-2 may thicken or solidify. A viscous liquid below 75°F (24°C), it may be fluidized by warming with a drum heater or in a steam room. Drums should be vented prior to heating to avoid excessive pressure build up. Product temperatures over 130°F (54°C) are not recommended.  <u>Standard Packaging:</u> BIO SOFT TA-2 is available in drums (400 lb, 181 kg) and in bulk quantities.
<b>Workplace Exposure</b>	Occupational exposure can occur primarily through skin contact or via inhalation of vapors and mists. Engineering controls, personal protective equipment, and other workplace practices should be used to control these exposures.



Clearances

Thickening  
Hydrochloric  
Acid

All components of BIO-SOFT TA-2 are listed on the following inventories: U.S.A.(TSCA 61791-26-2), Canada (DSL 61791-26-2), China (IECSC 61791-26-2), Europe (NLP 500-153-8), Japan (ENCS 7-60), Korea (ECL KE-01147), Australia (AICS 61791-26-2), New Zealand (NZIoC 61791-26-2), Philippines (PICCS 61791-26-2).

The viscosity of a 20.0% hydrochloric acid (22° Be) solution with various levels of BIO-SOFT TA-2 is shown below:

<u>BIO-SOFT TA-2, %</u>	<u>Viscosity at 25°C, cps)</u>
0.5	50
0.75	40
1.0	500
2.0	1,000
3.0	2,000
4.0	5,000
6.0	10,000
8.0	20,000

The thickened acid is clear and has long term storage stability.

Below is a formulation for a viscous toilet bowl cleaner. Typical viscosity of this formulation is 1,000 cps at 25°C. Commercial toilet bowl cleaning products are in the 100 to 275 cps viscosity range.

<u>INGREDIENTS</u>	<u>% BY WEIGHT</u>
Water	78.0
BIO-SOFT TA-2	2.0
Hydrochloric acid (22° Be)	<u>20.0</u>
	100.0

Mixing procedure: Charge water into tank. Add remaining ingredients in the order shown above while mixing. Continue mixing until clear and homogeneous.

Additional Safety  
Information

A Material Safety Data Sheet is available upon request.

Product Stewardship

This product bulletin has been written in accordance with ACC's Product Stewardship guidelines.

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