

TEXAS SPECIFICATION NO. 180-93-01B
SURFACTANT, NONIONIC, LOW-FOAMING, LIQUID

Effective Date: May 2011

1. **SCOPE:** This specification establishes the minimum requirements for a nonionic synthetic detergent suitable as an ingredient of low-sudsing cleaning compounds for use in State Agencies.

Nonionic surfactant complying with this specification provides good wetting and detergent properties to cleaning formulations. It requires no unusual safety measures in handling, due to its relatively non-toxic and non-irritating character. Accidental contact with the eyes, however, should be treated by prolonged flushing with running water.

2. **DEFINITIONS:**

Terminology used in this specification is intended to be generic in nature and consistent with meanings that have been defined through general use and/or accepted trade practices. Where variant meanings may exist, the applicable interpretation shall be determined by the Texas Procurement and Support Services, a division of the Texas Comptroller of Public Accounts (CPA).

3. **SPECIFICATION REQUIREMENTS:** Products furnished under this specification shall meet or exceed the following requirements:

3.1 **GENERAL REQUIREMENTS:** The product shall be a colorless to straw-colored liquid at ordinary temperatures, stable in either acid or alkaline solution, and compatible with reasonably hard water.

3.2 **CHEMICAL AND PHYSICAL REQUIREMENTS:** The product shall conform to the requirements below, when tested by the procedure outlined in Section 4.

Requirement	Minimum	Maximum
Cloud point (1% aqueous), ° C	26	40.00
Pour Point, ° C	--	20.00
Foam volume, ml at 60° C (initial/1 minute)	--	10/0
Loss of weight at 100° C/1 mm Hg	--	2.00

***pbw: percent by weight**

4. **TESTING:** Testing shall be performed by **American Society for Testing and Materials (ASTM)** procedures: www.astm.org

ASTM D 97 - Standard Test Method for Pour Point of Petroleum Products

ASTM D 2024 - Standard Test Method for Cloud Point of Nonionic Surfactants

Testing shall be done by an independent laboratory (preferred ASTM recommended, <http://www.astm.org/LABS/search.html>). Tests shall be performed on products will be provided to ordering agencies.

The product furnished under this specification shall be tested by the following methods for the chemical and physical requirements listed in the table of Section 3.2:

4.1 **Cloud Point:** Determine by the procedure of ASTM D 2024.

4.2 **Pour Point:** Determine by the procedure of ASTM D 97.

4.3 **Foam Volume:** Determine by the procedure of Federal Standard Test Method 536-2001.2, with exceptions as follows:

- a. Dissolve 1.0 to the nearest .01 gram of sample in 500 ml distilled water at room temperature
- b. Place 100 ml of the solution in a 250 ml glass stoppered graduated cylinder, insert a thermometer,

TEXAS SPECIFICATION NO. 180-93-01B
SURFACTANT, NONIONIC, LOW-FOAMING, LIQUID

Effective Date: May 2011

and warm in a steam or water bath to 60° C

- c. Stopper the cylinder, and rotate it about the midpoint to the inverted position and back 30 times over a one minute period
- d. Remove the stopper, and read foam volume immediately and after one minute

4.4 **Weight loss on Evaporation:** Weigh a 10 gram sample to 0.1 gram in a shallow aluminum pan. Heat under vacuum in an oven at 100° C an 1 mm Hg for one hour, let the sample cool, and determine the percent change in weight.

4.5 **Caustic Decoloration:** Place a 2% aqueous solution of the surfactant in contact with a few pellets of reagent grade sodium hydroxide in a clear glass container, and leave undisturbed for 24 hours at room temperature. Observe the solution in the vicinity of the pellets for discoloration. Any color deeper than medium yellow or tan constitutes failure to pass

5. **INSPECTION:** Products furnished under this specification shall be inspected by, or at the direction of the customer at the time of delivery.

6. **PACKAGING:** The product shall be packaged in non-returnable polyethylene drums of approximately 450 pound net capacity, meeting applicable government standards.

The product shall neither affect nor be affected by the container for a period of one year from date of shipment.

Packing for shipment shall be in accordance with the manufacturer's standard practice and in a manner readily accepted by common carriers engaged in interstate commerce. Within the shipping carton, units shall be packed in a manner designed to minimize damage during the shipment because of rough or improper handling.

6.1. **PACKAGE MARKINGS:** Each shipping container shall be clearly marked with the following:

6.1.1. Name of contents, including brand name, if any.

6.1.2. Quantity contained in pounds and/or kilograms.

6.1.3. Name and address of the manufacturer.

6.1.4. Warning statements as required by governmental regulations. A label on a container of a hazardous chemical must meet the requirements of the most current OSHA standards.

6.1.5. The following additional information shall either be marked on the container or appear on the shipping documents:

- Purchase order number or contract number.
- Name and address of customer.
- Customer's requisition number.

6.2. **LABELING:** Each container shall bear a durable label containing the name of the product and instructions for use, including required precautionary statements.

7. **COMPLIANCE:** The vendor must comply with the following documents upon delivery:

7.1. **Certificate of Analysis (CA):** A certificate of analysis from the manufacturer shall be submitted with each shipment.

7.2. **Material Safety Data Sheets (MSDS):** All Items must conform to the Texas Hazard Communications Act by being certified as nontoxic or providing an official MSDS sheet conforming to the requirements of the most current OSHA standards. A copy of the official MSDS sheet for each applicable chemical product must be submitted with each sample; each initial shipment; and updated MSDS must be

TEXAS SPECIFICATION NO. 180-93-01B
SURFACTANT, NONIONIC, LOW-FOAMING, LIQUID

Effective Date: May 2011

provided with the first shipment after update.

8. APPROVED PRODUCTS LIST (APL):

The CPA maintains an APL of products that meet or exceed the requirements of this specification. The products being approved are listed as follows:

Manufacturer	Brand Name / Product Number
BASF Corporation, Chemicals Division	Plurafac RA-30
Olin Chemicals	Poly-Tergen S405LF
Union Carbide Cooperation, Chemicals & Plastics	Triton CF-54
Huntsman Chemical Company	Surfonic LF-17
Crompton	Witconol-172

To have a new product listed on the APL, the following procedures are required:

- 8.1. Submit a written request to CPA, Texas Procurement and Support Services Division and include the following documentations:
 - **Official Certificate of Analysis from an independent laboratory**
The official Certificate of Analysis must list the following:
 - ✓ Chemical Name (CTFI/INCI name) and CAS No.
 - ✓ Manufacturer Name
 - ✓ Brand Name or Trade Name
 - ✓ Batch or Lot Identification Number
 - ✓ Each analytical result given as outlined in the RFP specifications
 - ✓ Laboratory Name, Address, and Contact Information
 - **Detailed technical specifications**
 - **Product literature**
 - **Material Safety Data Sheet (MSDS)**
- 8.2. The Certificate of Analysis will be reviewed and if approved, samples will be requested, in writing by CPA, for compatibility testing. The shipping instructions will be provided to the vendor at the time of the request.
- 8.3. A minimum of sixty (60) days will be required for compatibility testing to be conducted.
- 8.4. Sample sizes should be no less than 250 grams for powders and 500 ml for liquids. **Each sample must be accompanied with a current MSDS from the manufacturer.** More samples may be requested in writing by CPA. Samples will not be accepted unless accompanied with the current MSDS document for that material.
- 8.5. **CONTINUED COMPLIANCE:** Listing an approved product shall not relieve the vendor of providing products meeting each requirement of this specification. The vendor shall notify the CPA, in writing, of any changes in the product, address, brand name, etc.
- 8.6. **REMOVAL FROM APL:** Products on the APL may be removed for non-compliance, as determined by the CPA, or for failure to provide notification of any change to APL product(s).