

# AEROSOL<sup>®</sup> NPES 458 series

<b>Type:</b>	Anionic
<b>Chemical:</b>	Ammonium Salt of Sulfated Nonylphenoxypoly (Ethyleneoxy) Ethanol
<b>CAS No:</b>	9051-57-4
<b>Molecular Formula:</b>	C <sub>23</sub> H <sub>43</sub> NO <sub>8</sub> S
<b>Molecular Weight:</b>	493
<b>EPA Status:</b>	Exempt 40 CFR 180.1001 (d)
<b>FDA Status:</b>	Approved 21 CFR 178.3400

AEROSOL NPES 458 surfactant is a versatile surface active agent which can be utilized in a wide variety of household, institutional and industrial applications, e.g.:

- Dishwashing detergents—provides excellent foaming, good detergency and mildness.
- Emulsion Polymerization—emulsifies and stabilizes; recommended for vinyl acetate, vinyl chloride, acrylic, styrene and styrene-butadiene systems.
- Textile Wet Processing—alkaline scouring, bleaching, desizing, dyeing and finishing.

AEROSOL NPES 458 surfactant can also be used in general purpose cleaners, cosmetic and pesticide formulations.

## PHYSICAL AND CHEMICAL PROPERTIES

	<b>NPES 458</b>
Appearance at 25°C (77°F)	Clear, pale, yellow liquid
Odor	Alcoholic
Active Solids, % by weight, minimum (MW = 493)	58
Moisture, % by weight	20-25
Alcohol, % by weight	12-16
pH (as is)	6.5-7.5
Color, Varnish Color Scale, APHA maximum	5— —
Iron, ppm, maximum	15
Specific gravity, 25°C	~1.065
Density, lb/gal, 25°C	~8.9
Viscosity, cps, 25°C	~100
Freezing point, °C	<0
Flash point, °F Pensky-Marten (closed cup)	83 (28.3°C)

## SOLUBILITY

In polar organic solvents	Soluble
In nonpolar organic solvents	Insoluble
In water	Complete

## ELECTROLYTE TOLERANCE

Calcium Tolerance

AEROSOL NPES 458 surfactant	Calcium tolerance
<u>Concentration, % solids</u>	<u>ppm</u>
0.50	>2250

## SURFACE ACTIVE PROPERTIES

Critical Micelle Concentration (CMC), % by weight 0.020-0.050

Surface Tension, 25°C	
<u>% by weight</u>	<u>dynes/cm</u>
0.001	70
0.011	60
0.12	31

Ross Miles Foam Test, ASTM D-1173, 0.5% solution, 25°C  
Initial foam volume, mL 295  
Foam volume after 15 minutes, mL 250

Wetting (Draves Test)			
Draves Sinking Time in seconds at 25±1°C			
% Concentration	1.0	0.5	0.1
Time in Seconds	4.8	8.6	12.9

## EPA STATUS<sup>1</sup>

Under the provisions of 40 CFR 180.1001 (d) of the Pesticides Chemicals Regulations, AEROSOL NPES 458 surfactant is exempted from the requirement of a tolerance when used in accordance with good agricultural practice as an inert ingredient of pesticide formulations applied to growing crops.

<sup>1</sup> 21 CFR 182.99 Adjuvants for Pesticide Chemicals—Adjuvants, identified and used in accordance with 40 CFR 180.1001 (c) and (d), which are added to pesticide use dilutions by a grower or applicator prior to application to the raw agricultural commodity, are exempt from the requirement of tolerance.

## FDA STATUS

AEROSOL NPES 458 surfactant is permitted for use under 21 CFR 178.3400. This regulation constitutes a blanket approval for the use of AEROSOL NPES 458, in the manufacture of any non-food article intended for food-contact use. Therefore, in effect, AEROSOL NPES 458 is listed in every regulation in Subpart F of the Food Additives Regulations. Unless otherwise specified, there are no limitations on the nature or amount of use of AEROSOL NPES 458, other than the general limitations given in Section 174.5, which are applicable to every substance listed in Subpart D.

## HEALTH AND SAFETY INFORMATION

Before handling this material, read the corresponding Cytec Industries Inc. Material Safety Data Sheet for safety, health and environmental data. The oral (rat) LD<sub>50</sub> for this material is greater than 5 g/kg. Inhalation overexposure to ethanol may cause central nervous system depression. Direct dermal contact with the liquid may cause moderate irritation including swelling or dermatitis. Direct eye contact with the liquid may cause severe irritation including inflammation of the outer eye and painful burning. Inhalation overexposure to the vapor may cause eye irritation, while overexposure to the vapor may cause eye irritation. Overexposure to the mist may cause eye, nose and throat irritation.

## STORAGE AND HANDLING

AEROSOL NPES 458 surfactant is a Class I flammable liquid. Precautions should be followed for this classification.

Solutions of AEROSOL NPES 458 may be stored and used in a wide variety of containers or reaction vessels. Stainless steel, aluminum and Monel are recommended

for reaction and storage vessels; glass and rubber are suitable lining materials. Some of the sprayed resinous coatings are satisfactory in stationary tanks in which the coating can be built up more heavily than is customary in drums. In permanent installations, however, the added expense of aluminum, stainless steel or clad-steel frequently is justified. Containers filled with AEROSOL NPES 458 surfactant should be kept closed when not in use, as evaporation of water and solvent may cause gelation. The quality of the AEROSOL NPES 458 surfactant is not affected by this physical change.

If a batch of AEROSOL NPES 458 surfactant should gel, a small amount of ethanol should be added and the drum rolled until the gel has disappeared (1-2% of ethanol on the weight of the batch is sufficient). To effect more rapid liquefaction, the drum should be put in a steam-heated chest.

The efficacy of AEROSOL NPES 458 surfactant is not impaired by freezing and thawing. However, if a freeze-thaw occurs, it is recommended that the entire contents of the container be agitated prior to use.

## IMPORTANT NOTICE

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE. Nothing herein is to be taken as permission, inducement or recommendation to practice any patented invention without a license.

## TRADEMARK NOTICE

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## TSCA INFORMATION

This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S.C.



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