

DESCRIPTION

ThunderStorm[™] ATC 1X3 Alcohol Resistant AFFF Concentrate is formulated using a new and proprietary technology. The foam concentrate has a dramatically reduced viscosity as compared to other 1X3 listed polar-solvent type AFFF concentrates on the market. This reduced viscosity enhances performance in all types of foam proportioning equipment including in-line eductors, balanced pressure systems, and built-in systems aboard CFR vehicles.

Additionally, the fire fighting performance of ThunderStorm[™] ATC is superior to other *AR/AFFF* foam concentrates. This includes the blended gasoline additive Methyl Tertiary Butyl Ether (MTBE) which is being used as an oxygenate to make gasoline cleaner burning. ThunderStorm[™] ATC 1X3 Concentrate offers many distinct advantages for ease of use and represents a continued commitment to quality by improving the fire performance of this type of agent on gasoline products while still maintaining high performance levels on other hydrocarbons and polar fuels.

ThunderStorm[™] ATC 1X3 Concentrate is formulated from special fluorochemical and hydrocarbon surfactants, high molecular weight polymers and solvents. It is transported and stored as a concentrate to provide ease of use and considerable savings in weight and volume. It contains no PFOS or PFOA. It is intended for use as a 1% proportioned solution on hydrocarbon fuels and as a 3% proportioned solution on polar fuels in fresh, salt or hard water. It may also be stored and used as a premixed solution in fresh potable water only.

There are three fire extinguishing mechanisms in effect when using ThunderStorm[™] ATC 1x3 solution on either a conventional Class B hydrocarbon fuel such as gasoline, diesel fuel, etc., or a Class B polar solvent (water miscible fuel) such as methyl alcohol, acetone, etc. First, an aqueous film is formed in the case of a conventional hydrocarbon fuel, or a polymeric membrane in the case of a polar solvent fuel. This film or membrane forms a barrier to help prevent the release of fuel vapor. Second, regardless of the fuel type, a foam blanket is formed which excludes oxygen and from which drains the liquids that form the film or the polymeric membrane. Third, the water content of the foam produces a cooling effect.

TYPICAL PHYSIOCHEMICAL PROPERTIES (77°F/25°C)

Appearance	Purple Gelled Liquid
Density	1.02 ± 0.01 g/ml
pH	7.5 – 8.5
Refractive Index	1.3600 ± 0.0015
Viscosity	2700 ± 500 CPS*
Spreading Coefficient	4.0 – 6.0

*BROOKFIELD VISCOMETER Spindle #4, Speed 30 RPM

ThunderStorm[™] ATC 1x3 Alcohol Resistant Concentrate is a non-Newtonian fluid that is both pseudoplastic and thixotropic. Because of these properties, dynamic viscosity will decrease as shear increases.

APPLICATION

ThunderStorm[™] ATC 1X3 can be used on either conventional Class B fuel or the polar solvent type Class B fuels. Its excellent wetting characteristics make it useful in combating Class A fires as well.

Because of the low energy required to make foam, it can be used with both aspirating and nonaspirating discharge devices. To provide even greater fire protection capability, it may be used with “**PKW**” dry chemical extinguishing agent without regard to the order of application. Hydro-Chem[™] Technology is a recommended application for dual agent use on three dimensional fire. Due to the velocity of the dry chemical discharge, care must be taken not to submerge the polymeric membrane below the fuel surface when using twin agent on polar fuels.

FIRE PERFORMANCE

The fire performance of ThunderStorm[™] ATC 1X3 Alcohol Resistant Concentrate is measured primarily against Underwriters Laboratories Standard 162 (Latest Revision) and Williams Fire and Hazard Control fire test. The UL testing focuses on fuels such as heptane and isopropyl alcohol while the Williams Fire and Hazard Control test focuses on premium unleaded gasoline. ThunderStorm[™] ATC 1X3 was formulated to provide superior performance on all fire tests, especially important is performance on high octane gasoline.

FOAMING PROPERTIES

When used with fresh, salt or hard water at the correct dilution with most conventional foam making equipment, the expansion will vary depending on the performance characteristics of the equipment. Aspirating discharge devices produce expansion ratios of 5:1 to 10:1 depending primarily on type of aspirating device and flow rate. Nonaspirating devices such as handline water fog/stream nozzles or standard sprinkler heads give expansion ratios of 2:1 to 4:1. Medium expansion discharge devices produce typical expansion ratios between 20:1 to 60:1 depending primarily upon type of device and operating conditions.

Proportioning – ThunderStorm[™] ATC 1X3 Alcohol Resistant Concentrate can be easily proportioned (at the correct dilution) using most conventional proportioning equipment such as:

1. Hydro-Foam[™] Nozzles
2. Balanced pressure and in-line balanced pressure pump proportioning equipment.
3. Balanced pressure bladder tank proportioner
4. Around-the-pump and Through-the-pump proportioners
5. Fixed or portable (in-line) venturi proportioners
6. Handline nozzles with fixed induction/ pickup tubes

The minimum and maximum usable temperature for ThunderStorm[™] ATC Concentrate in this equipment is 35 °F (2 °C) to 120 °F (49 °C) respectively.

Storage/Shelf Life – When stored in the packaging supplied (polyethylene totes, drums or pails) or in equipment recommended by the manufacturer and within the temperature

limits specified, the shelf life of ThunderStorm™ ATC 1X3 Alcohol Resistant Concentrate is about 20-25 years. The factors affecting shelf life and stability for AFFF agents are discussed in detail in Ansul Technical Bulletin No. 54. Freezing of the product should be avoided. If, however, the product is frozen during transport or storage, it must be thawed and inspected for signs of separation. If separation has occurred, the product must be mechanically mixed until homogeneous.

When the concentrate is to be stored in an atmospheric storage tank, a 1/8 to 1/4 in. (3 – 6 mm) layer of mineral oil should be added to seal the concentrate and minimize the effects of evaporation.

Compatibility – Since ThunderStorm™ ATC 1X3 Alcohol Resistant Concentrate is a unique blend of surfactants, high molecular weight polymers, and solvents; it is recommended that it not be mixed with any other foam concentrates. Consult Williams Fire and Hazard Control or Ansul Incorporated with any questions of compatibility.

Materials of Construction Compatibility – Tests have been performed with ThunderStorm™ ATC 1X3 Alcohol Resistant Concentrate verifying its compatibility with standard carbon steel “black” pipe and pipe manufactured from various stainless steel or brass compounds. Alternative pipe, plastic fittings, and valves may be used in some cases if acceptable to the customer and/or the authority having jurisdiction. Refer to Ansul Technical Bulletin No. 59, Form No. F-90109, addressing acceptable materials of construction for use with Ansul foam concentrates.

Galvanized pipe and fittings must not be used in areas where undiluted concentrate will contact them since corrosion will result.

Please first consult Williams Fire and Hazard Control or Ansul Incorporated for specific guidelines concerning materials of construction.

Inspection – As with any fire extinguishing agent, ThunderStorm™ ATC 1X3 Alcohol Resistant Concentrate, whether in the concentrate or pre-mixed form, should be inspected periodically. NFPA 11 “Standard for Low Expansion Foam and Combined Agent Systems” requires that foam concentrate samples be submitted to the manufacturer or other qualified laboratory for quality condition testing at least annually. Contact Williams Fire and Hazard Control or Ansul for further information on annual inspection.

APPROVALS AND LISTINGS

Underwriters Laboratories successfully tested ThunderStorm™ ATC 1X3 Concentrate to the requirements contained in U.L. Standard 162, “Standard for Air-Foam Equipment and Liquid Concentrates.” To receive a U.L. listing, the following tests had to be performed successfully:

1. Foam Quality Tests
2. Class B Hydrocarbon Fuel Fire Tests
3. Class B Polar Solvent Fuel Fire Tests
4. Foam Identification Tests
5. Tests of Shipping Containers

In addition to determining agent characteristics, Underwriters Laboratories lists ThunderStorm™ ATC 1X3 concentrate for use with specific hardware components that also carry the U.L. listing.

ORDERING INFORMATION

ThunderStorm™ ATC Concentrate is available in pails, drums, totes or bulk shipment.

5 gallon pail	Part No. 429965
55 gallon drum	Part No. 429964
265 gallon tote	Part No. 429963
Bulk	Part No. 429962

Shipping Weight

5 gal. (19 L) pail	45 lbs. (20.4 kg)
55 gal. (208.2 L) drum	495 lbs. (224.5 kg)
265 gal. (1000 L) tote	2463 lbs. (1117 kg)
Cube: 5 gal. (19 L) pail	1.25 cu. ft. (.0354 m3)
55 gal. (208.2 L) drum	11.83 cu. ft. (.3350 m3)
265 gal. (1000 L) tote	31.50 cu. ft. (.8920 m3)

Important Notice to Purchaser: *All statements, technical information and recommendations contained herein are based on tests conducted with ThunderStorm™ ATC approved equipment, and are believed to be reliable. But the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose:*

Sellers and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Before using, user shall determine the suitability of the product for it's intended use, and user assumes all risk and liability whatsoever in connection there within. NEITHER SELLER NOR MANUFACTURER SHALL BE LIABLE EITHER IN TORT OR IN CONTRACT FOR ANY LOSS OR DAMAGE, DIRECT, INCIDENTAL, OR COINCIDENTAL, ARISING OUT OF THE USE OF OR THE INABILITY TO USE THE PRODUCT. No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of seller and manufacturer.



Williams Fire & Hazard Control, Inc.

P.O. Box 1359 Mauriceville Texas, USA 77626

24 Hour Emergency Number
409 727 2347



tyco / Tyco Suppression / **ANSUL**
Systems

ONE STANTON STREET, MARINETTE, WI 54143-2542 715-735-7411
ISO 9001 Registered