

What is AF31?

AF31 is a proprietary solution created to combat and prevent wildfires. Adopted by several countries around the world, AF31 is a water-based solution made from food grade ingredients. AF31 has no toxic environmental impact. AF31 does not use any: ammonia, urea, gums, gels, phosphates, or known carcinogens.

Active Ingredients, all used in food industry:

- Citric Acid (used in canning and jarring of fresh foods)
- Potassium Bicarbonate (mineral found naturally in foods)
- Potassium Carbonate (alkaline ingredient used to buffer acidity in milk, marinades, wine, cocoa beans to make chocolate)

Is there any off-gassing during the application?

AF31 has been certified by UL as Greenguard Gold. The GREENGUARD Gold Certification standard includes health-based criteria for additional chemicals and also requires lower total VOC emissions levels to help ensure that products are acceptable for use in environments like schools and healthcare facilities. In addition to limiting emissions of more than 360 VOCs and total chemical emissions, GREENGUARD Gold Certified products must also comply with requirements of the state of California's Department of Public Health (CDPH).

Is it safe for groundwater?

Aquatic testing was performed by Pollutech EnviroQuatics Limited:

- LC50 toxicity for Rainbow Trout was 4.62ml/L
- LC50 toxicity for Daphnia Magna was 3.54ml/L

Are there any ophthalmic or dermal irritants or toxic effects from ingestion?

AF31 was evaluated by KGK Synergize Labs, in four animal studies to determine its effects on acute eye irritation/corrosion, acute dermal irritation/corrosion, acute oral irritation toxicity and acute dermal toxicity.

- AF31 classified as "non-irritating" in test subjects at 72 hours.
- Acute oral LD50 in test subjects was found to 2000mg/kg.
- Acute Dermal LD50 in test subjects was in excess of 2kg body weight

Are there any ODS's (Ozone Depleting Substances)?

AF31 has been tested by PSB Singapore to be free of any ODS (Ozone Depleting Substance) and VOC (Volatile Organic Compounds)

Is there any corrosion to fire equipment/plastic seals/metal?

Tested by QAI Laboratory to AWPA E12-15 (Steel, Brass, and Aluminum)

- AWPA E12-15 standard showed an excellent performance rating according to the Corrosion Engineers Handbook.

Tested by QAI Laboratory to ASTM D638-14 (PVC, CPVC, and PEX)

- ASTM D638-14 demonstrated no significant strength reduction due to the chemical exposure after a complete immersion conditioning of seven days.

Are there any carcinogens IARC Group 1 or Group 2A agents or PCB's (polychlorinated biphenyls) or PAH (Polycyclic Aromatic Hydrocarbons)?

AF31 does NOT use / contain any carcinogenic substances including PFAS (Poly Fluoro Alkyl Substance) such as PFOS (Perfluorooctane Sulfonate) and PFOA (Perfluorooctanoic Acid).

How do we apply AF31?

AF31 can be used as a preventative firebreak using fire apparatus, hoses via pump, and/or ground crews with mobile sprayers.

How long does the application last?

AF31 application will last 6 months irrespective of dry weather or light rain. It should be reapplied after heavy rain-fall.

Where has it been used?

AF31 has been utilized by several countries around the world including: Malaysia, Indonesia, Greece, France, Germany, and Canada.



What type of fire does it work on?

AF31 is capable of preventing and extinguishing all types of fires including: forest / wildfire, peat fire, bush fire, wood frame construction, Air Rescue and Firefighting (ARFF), structure fires, metal fires, lithium battery fires, tire fires, cooking fires, etc.

How much AF 31 is needed to cover an acre?

1 Tote (220 gallons) to 1 acre ground coverage.

How is it stored? Storage temperature?

AF31 should be stored in containers away from direct sunlight. Storage temperature range is -10 F to + 131 F.

What safety gear do firefighters need during application?

Standard safety fire turnouts are not harmful to skin.

What is the shelf life?

10 + years

Can this be used in residential or commercial firefighting?

Yes, AF31 is currently being used in Malaysia and Indonesia by fire department in city/municipal fires and industrial fires

AF31 is food grade potassium based in water solution

Tests :

- UL Greenguard Gold
- ASTM E84-07 Extended 30 minutes by QAI Laboratories, California
- Dermal, Eye and Corrosion Test to LD50 by Nucro Technics Laboratory
- Biological / Toxicity Aquatic Test to LC50 by Pollutech Enviroquatic Laboratory
- Non CFC and Volatile Organic Compounds (VOC) by PSB Singapore
- Christmas / Pine Tree Burn Test by Stanger Laboratory UK and QAI Laboratories, California

Ingredients are free of any :

- Gums
- Ammonia
- Phosphate
- Ammonium Polyphosphate
- Sulphate
- Urea
- PFAS (PolyFluoroAlkyl Substance), Polymers
- AVD (Aqueous Vermiculate Dispersion substances)

TESTING & CERTIFICATIONS

