TECHNICAL DATA SHEET (TDS) AND INSTRUCTIONS FOR USE

PLAS P AIRCRAFT

De-/Anti-icing Fluid for Aircraft Surfaces

Monopropylene glycol (MPG) based Type I and Type II aircraft de-icing and anti-icing fluids

Product Description

The PLAS P AIRCRAFT series are monopropylene glycol (MPG) based aviation fluids developed to remove ice, snow and frost from the wing, tail and fuselage surfaces of aircraft (de-icing) and to prevent re-freezing for a certain time before flight (anti-icing). Vital for flight safety, these fluids protect the surface without impairing its aerodynamics. The product is manufactured in two classes, Type I and Type II.

Key Features

- Compliant with AMS 1424 / ISO 11075 (Type I) and AMS 1428 / ISO 11078 (Type II)
- Full compatibility with aircraft materials
- High holdover time
- Low foaming
- Thermal stability
- Easy application



Product Types

Type	MPG content	Specifications	Purpose
Type I	80 – 88%	AMS 1424 · ISO 11075	Low viscosity; applied hot. Removal of existing ice, frost and snow (de-icing); short holdover time.
Type II	50 – 55%	AMS 1428 · ISO 11078	Thickened (pseudoplastic); combines de-icing and anti-icing, remains on the surface to provide holdover time.

Packaging

PLAS P AIRCRAFT is supplied in 60 kg drums, 200 kg barrels and 1,000 kg IBC tanks.

Storage

- PLAS P AIRCRAFT should be stored in its original, tightly closed packaging in a cool, dry place away from direct sunlight.
- Shelf life is 24 months in the unopened original packaging.

Areas of Use

- Commercial and cargo airline aircraft, business jet and general aviation terminals (FBO)
- Military air bases, UAV / UCAV production, test and operation facilities
- Aviation schools, training fleets and helicopter operations

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Technical Properties

Property	Type I	Type II
Chemical composition	Propylene glycol (80–88%) and corrosion inhibitors	Propylene glycol (50–55%), corrosion inhibitors and thickener
Appearance	Clear liquid	Clear, viscous liquid
Colour	Please consult us for colour options.	Please consult us for colour options.
Refractive index (20 °C)	1.418 – 1.420	1.389 – 1.392
pH (as is)	8.0 – 9.5	7.0 – 7.5
Density (20 °C)	approx. 1.04 g/cm³	approx. 1.04 g/cm³
Freezing point (diluted 1:1 with water)	< −25 °C	< −10 °C
Viscosity (20 °C)	18 – 23 mm²/s (kinematic)	6,000 – 14,000 mPa·s (Brookfield, 0.3 rpm)
Surface tension	37 – 45 mN/m	29.6 mN/m

Material compatibility (see the TDS of each type for type-specific details)

Material	Status
Aluminium and its alloys	Protected by corrosion inhibitors; subject to AMS/ISO corrosion tests
Composite fuselage panels	Compatibility tested within the scope of the specification
Paint and coatings	No softening, blistering or discolouration of aircraft paint
Acrylic surfaces (cockpit windows)	Subject to crazing test
Elastomer seals and hoses	Subject to swelling and hardening tests
Cadmium-plated fasteners	Covered by the sandwich corrosion test

Holdover time

Holdover time (HOT) is the estimated time during which the anti-icing fluid can prevent renewed accumulation of ice / snow on the surface; it depends on the fluid type, mixing ratio, type and intensity of precipitation, outside air temperature and wind. HOT tables are published for each winter season by SAE and the aviation authorities; final responsibility lies with the pre-take-off contamination check.

Instructions for Use

1. Apply the fluid with the airport de-icing vehicles in accordance with the winter operations instructions of the competent aviation authority and the aircraft manufacturer's procedures.
2. For de-icing, PLAS P AIRCRAFT is mixed with hot water and sprayed onto the surface under pressure; the heat accelerates the removal of ice from the surface.
3. For anti-icing, Type II fluid is applied cold, either neat or mixed with a low proportion of water. Type I fluids are mainly intended for de-icing and have short holdover times.
4. Select the mixing ratio according to the outside air temperature (OAT) and the expected protection time: the lower the temperature and the heavier the precipitation, the higher the fluid content. The freezing point of the mixture must be at least 10 °C below the OAT (buffer rule).
5. Cover the critical surfaces (upper wing surface, horizontal and vertical stabilisers, upper fuselage) completely; protect engine inlets, pitot tubes, static ports and sensor areas according to the procedure.
6. Read the holdover time from the published HOT tables of the current season. If the aircraft has not taken off when the time has elapsed, renew the pre-take-off check and repeat the treatment if necessary.

General product description based on our present knowledge; not part of the delivery specification. The user is responsible for the suitability of the product for its application. See the Safety Data Sheet (SDS) for safety precautions.

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