

# Technical Data



## FORMULA 1/HT HIGH TEMPERATURE RESISTANT, SILICONE RELEASE



**FORMULA 1/HT** is a high temperature silicone release agent and lubricant. It has been formulated for moulding and spinneret headplate lubrication, but is effective on a large range of materials and processes. Contains no chlorinated solvents or ozone depleters.

### APPLICATIONS

FORMULA 1/HT contains a special dimethylpolysiloxane-based fluid with increased resistance to weight loss, viscosity change and gelation at temperatures up to 288°C. At this temperature, the product provides resistance to gelation of 5,000 hours continuous and will give a similar resistance at 300°C+ for intermittent periods. At 300°C+ gelation will occur earlier due to the reduced oxidation resistance and tests should be conducted, according to the intended application to determine the optimum period obtained before a full clean-down is required.

When used for the lubrication of the spinneret headplate for the production of synthetic fibres, any slight residue may be cleaned off with a copper blade. The appearance of white crystals on the headplate is caused by the oligomer by-product of Nylon manufacture and is not caused by the release agent. After continuous use for periods up to 1,200 hours, correct maintenance of the headplate by cleaning in an ultrasonic bath will ensure maximum life of the headplate and reduce downtime caused by hand cleaning.



### TECHNICAL DATA

Appearance	: Colourless to hazy reddish brown liquid
Odour	: Negligible
Relative Density	: 0.866
Pressure @ 25°C	: 6 Bar
Discharge rate	: 1.9 g/sec
Temperature range	: Operational up to 288°C continuous, 300°C intermittent (see above)
Solubility	: Soluble in solvents, insoluble in water
Flammability	: Flammable
Flashpoint	: Not applicable in sealed aerosol
Packaging	: 400ml aerosol (12 per carton)

## ADVANTAGES

- High slip factor ensures faster production
- Superb release property provides improved finish
- 360° spray system allows multi-directional application for total coverage and maximum control
- High heat resistance up to 300°C without crystallisation

## SPINNERET APPLICATION

The following table is a guide to the lubrication periods normally achieved without gelation.

<b>POLYMER</b>	<b>FINE DENIER</b>	<b>HEAVY DENIER</b>	<b>PERIOD *</b>
Polypropylene	230°C - 240°C	250°C	>10,000 GTH
Nylon 6	260°C	260°C	10,000 GTH
Nylon 66	288°C	288°C	>5,000 GTH
Polyester	290°C - 300°C	290°C - 300°C **	>200 GTH

\* GTH = Gelation Time in Hours

\*\* For high tenacity products such as industrial yarns or tyre cords, sometimes a slightly higher temperature is used in the spinneret area than in the pump area of the Spin Beam and thus the gelation period will be more limited.

## TEST METHOD

The gelation time of the fluids was determined by heating a 3mm thick layer of fluid in a glass dish of 40mm diameter at 250°C or 300°C in air.

## STORAGE

The product may be stored at normal ambient temperatures and has a shelf life of not less than 72 months with correct storage. Aerosols should always be stored below 50°C, away from direct heat and naked flame.

## HEALTH AND SAFETY

Health and Safety sheet available separately.

## TECHNICAL SERVICE

Ambersil provides a technical support service and maintains a constant programme of research and development. We are able to assist customers by specific product development to meet particular requirements.

## MISREPRESENTATION ACT 1967

## TRADE DESCRIPTIONS ACT 1968

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