

'Suprasec' 5005 isocyanate

Typical properties

Product	'Suprasec' 5005
Appearance	Clear brown liquid, F.F.E.M. ^(a)
Specific gravity at 25°C	1.23
Viscosity at 25°C, mPa s	170 – 270
Isocyanate (NCO) value ^(b) , % by wt NCO groups (group wt = 42)	31.0
Functionality	2.7
Flash point ^(c) , °C	230
Fire point ^(c) , °C	245
Iron content, ppm	0 – 20

^(a) Free From Extraneous Matter

^(b) typical value corrected for hydrolysable chlorine

^(c) Cleveland Cup, ASTM Method D92

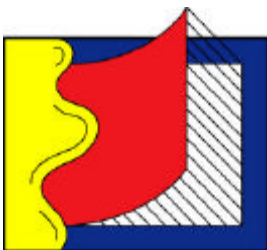
Introduction

Suprasec[®] 5005, polymeric diphenylmethane diisocyanate (MDI), is a clear brown liquid. The product contains some high functionality isocyanates and has an average functionality of 2.7.

'Suprasec' 5005 is recommended for use in the manufacture of coatings, adhesives and elastomers. This product, of high functionality and low viscosity, is ideally suited for use in one- and two-component systems.

Polyurethanes based on 'Suprasec' 5005 are used in a wide variety of applications including:

- spray protective coatings, industrial floor coatings, underbody coatings, primers
- shoe sole-, wood- and construction adhesives, adhesives for general industrial use and laminate adhesives for the panel industry
- soil stabilisation, hydro-active grout
- encapsulants
- elastomers



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Storage and handling recommendations

Containers of 'Suprasec' 5005 should be kept properly closed and stored indoors in a well-ventilated area under normal factory conditions.

Storage at room temperature (20 – 30°C) provides a convenient viscosity for handling. Storage at low temperature is not recommended because it may lead to some crystallisation; this material must therefore be protected from frost. If under abnormal storage conditions (below 0°C) some crystallisation does occur, the material should be melted according to the procedures given in the publication PU 181-15E. Storage at temperatures above 50°C is not recommended since this can lead to the formation of insoluble solids and also increases the rate of viscosity increase on extended storage. To minimise insoluble dimer formation the storage temperature and duration of storage must be carefully controlled.

The product must be protected from water ingress and atmospheric moisture; containers should be resealed carefully after each sampling.

The reaction of isocyanate with water leads to the formation of insoluble ureas and carbon dioxide gas which can result in pressure build-up in closed containers; containers used for 'Suprasec' 5005 must therefore be absolutely dry.

Under the recommended storage conditions, and in properly sealed containers, i.e. drums, cans, etc., but not bulk storage vessels, liquid 'Suprasec' 5005 has a storage life of 9 months at the customer.

The precautions necessary when handling 'Suprasec' 5005, i.e. MDI, and the decontamination procedures recommended to be used in case of spillage are described fully in the publication PU 193-1E, *MDI-based compositions: hazards and safe-handling procedures*.

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Health and safety advice

The appropriate health and safety advice can be found in the safety data sheet for 'Suprasec' 5005, which is available on request.

All users of 'Suprasec' 5005 are advised to read the publication PU 193-1E, *MDI-based compositions: hazards and safe-handling procedures*.

Recommended melting procedures

Should it prove necessary to melt 'Suprasec' 5005, procedures are given in the publication PU 181-15E, *Recommended melting procedures for MDI-based isocyanates*.

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