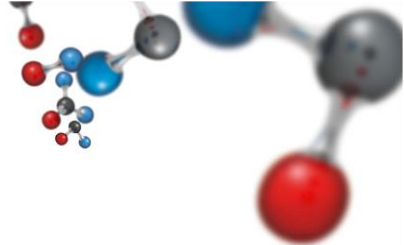


TECHNICAL DATA SHEET (TDS)

ONGRONAT® CO 4050



- **Product Description:** ONGRONAT® CO 4050 is a mixture of monomeric MDI isomers, carbodiimide modified MDI and additives
- **Appearance:** Solvent free, colourless or pale yellow low viscosity liquid at room temperature
- **Industry:** Construction
- **Applications:** ONGRONAT® CO 4050 is a special MDI variant developed for polyurethane adhesives as isocyanate component

SPECIFICATIONS

Property	Value	Dimension	Test Method
NCO	31.6 – 33.6	wt%	ASTM D 5155
Viscosity (at 25 °C)	9-19	mPa.s	ASTM D 4889

OTHER PROPERTIES*

Property	Value	Dimension
Density (at 25 °C)	1.22	g/cm ³
Flash point	>200	°C
Vapour pressure (at 25 °C)	<10 ⁻⁵	mbar

*Parameters given in the other property range are only typical values; therefore they are not part of the specification.

PACKING, STORAGE & TRANSPORT

ONGRONAT® CO 4050 can be packed and transported in road tankers, 1000 l containers (IBCs), 225 kg non-returnable metal drums, or in metal cans under nitrogen blanket. The loading temperature is 40 – 45 °C. Please note that based on the distance of the destination the delivery temperature may differ from the loading temperature, but still remains in the range of 20 – 45 °C delivering the product in bulk. In case of shipping by normal truck (in drums or IBCs) the delivery temperature can not be warranted. Transporting ONGRONAT® CO 4050 by the means of thermo trucks in drums or IBCs the temperature must be kept in the range of 20 – 30 °C. Therefore the exposure of the containers to cold shocks and intensive sunlight must be avoided. ONGRONAT® CO 4050 is shipped according to the above temperature ranges in the lack of any special requirement.

Normal processing temperature is between 20-30 °C. It is recommended to store ONGRONAT® CO 4050 within this temperature range. The material must be kept dry at all times; therefore it must be protected from water ingress and atmospheric moisture. In order to protect the material from atmospheric moisture a dry inert gas blanket (nitrogen) with a dew point of -40 °C must be used for any type of containers (drums or storage tanks). Dry air is not recommended for this purpose because it could cause oxidation and due to this, the

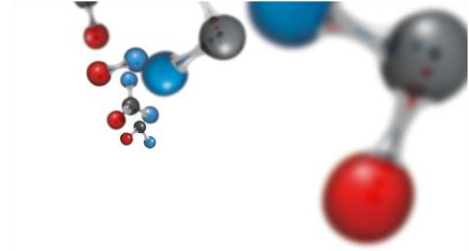
colour of the product can become darker. Since carbon dioxide (CO₂) is soluble in isocyanates it is not recommended to use as an inert gas either. During storage below 20 °C the quality of ONGRONAT® CO 4050 can deteriorate, because of the partial crystallisation of its 4,4'-methylene diphenyl diisocyanate content. The product can be liquefied again by heating it up to 70°C as rapidly as possible in a controlled way. During this re-melting procedure sediment can be generated. If the product is not consumed immediately after re-melting, it is necessary to ensure storage at the recommended temperature. Storage at a temperature above 30 °C is not recommended since discolouration and formation of insoluble solids (dimerisation) may occur which can lead to a viscosity increase and a decrease of NCO content. Above 150 °C a slow, exothermic decomposition reaction takes place which becomes extremely fast above 250 °C, so care must be taken to avoid this thermic effect.

Stored under the above mentioned conditions the product preserves its quality for max. six (6) months from the date of its production.

SAFETY PRECAUTIONS

TECHNICAL DATA SHEET (TDS)

ONGRONAT® CO 4050



All activities related to isocyanate handling are potential sources of danger; therefore special care must be taken when working with it. Handle the material with care. Avoid contact

with water and moisture. Avoid contact with skin and eyes. Do not inhale the vapours of the product. Detailed safety information available in the specific Safety Data Sheet.

Version: English
Date: 01.09.2014
Technical Data Sheet (TDS)
ONGRONAT® CO 4050

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This information is based on our most recent knowledge. However, the application and processing of the material after sale is beyond our control and we cannot assume responsibility for use of this material outside BorsodChem premises. The user is obliged to check the suitability of this material for the intended use and accepts sole responsibility for compliance with any legal requirements relating to its use. This document does not constitute a warranty or guarantee.



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