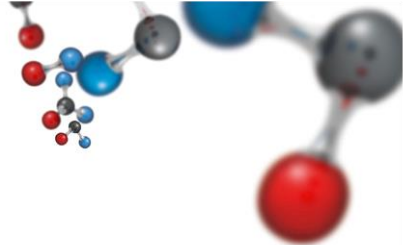


TECHNICAL DATA SHEET (TDS)

ONGRONAT® TR 4040



- **Product Description:** ONGRONAT® TR 4040 is a mixture of monomeric MDI isomers and polymeric MDI
- **Appearance:** Solvent free dark-brown low viscosity liquid at room temperature.
- **Industry:** Transport
- **Applications:** ONGRONAT® TR 4040 is a liquid MDI composition designed to be used in the production of flexible moulded foam cushions. It is particularly suitable for automotive seating application where good support and durability is important.

SPECIFICATIONS

Property	Value	Dimension	Test method
NCO	31.6 – 33.6	wt%	BorsodChem Method PAK 155
Viscosity [at 25 °C]	15 - 45	mPa.s	ASTM D 4889

OTHER PROPERTIES*

Property	Value	Dimension
Density [at 25 °C]	1.22	g/cm ³
Flash point	>200	°C

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

PACKING, STORAGE & TRANSPORT

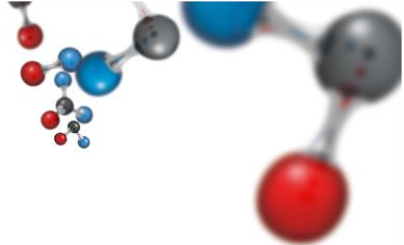
Transport and packing: ONGRONAT® TR 4040 can be packed and transported in road tankers, 1000 l containers (IBCs), 250 kg non-returnable metal drums, or in metal cans under nitrogen blanket. The loading temperature is 40 – 45 °C. Please note that based on the distance of the destination the delivery temperature 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® TR 4040 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® TR 4040 is shipped according to the above temperature ranges in the lack of any special requirement.

Storage: Normal processing temperature is between 20-25 °C. It is recommended to store ONGRONAT® TR 4040 within this temperature range. The material can also be stored within the temperature range of 15-30 °C without affecting its quality significantly. Stored under the above mentioned conditions the product preserves its quality for max. six (6) months from the date of its production. During storage below 15 °C the quality of ONGRONAT® TR 4040 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. 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.

TECHNICAL DATA SHEET (TDS)

ONGRONAT® TR 4040



SAFETY PRECAUTIONS

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: 01.10.2019
Technical Data Sheet (TDS)
ONGRONAT® TR 4040

www.borsodchem-group.com

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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