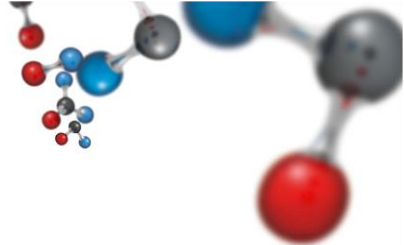


TECHNICAL DATA SHEET (TDS)

ONGRONAT® TR 4100



- **Product description:** ONGRONAT® TR 4100 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 4100 is an isocyanate component designed for the production of flexible foams for sound insulation specifically used in the automotive industry

SPECIFICATIONS

Property	Value	Dimension	Test Method
NCO	31.1 - 33.1	wt%	BorsodChem Method PAK 155
Viscosity (at 25 °C)	35 - 75	mPa.s	ASTM D4889

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

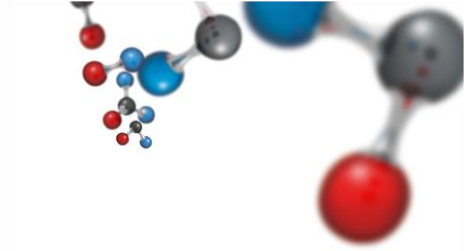
Transport and packing: ONGRONAT® TR 4100 can be loaded and transported in road tankers, 1000 l containers, 225 kg non-returnable metal drums, or in metal cans under nitrogen blanket. The loading temperature is 40-45 °C in bulk and 20-30 °C in the case of drummed product, or in intermediate bulk containers (IBCs). 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. When transporting ONGRONAT® TR 4100 in drums or IBCs the temperature must be kept in the range of 15 to 30 °C, therefore exposure of the containers (drums or IBCs) to cold shocks and the prolonged effect of intensive sunlight must be avoided. ONGRONAT® TR 4100 is shipped according to the above mentioned delivery temperature ranges in the lack of any special requirement.

Storage: It is recommended to store the product within the temperature range of 20 – 25 °C. Under these conditions the product preserves its quality for max. six (6) months from the date of production. The material can also be stored within the temperature range of 15 - 30 °C without affecting its quality significantly. During storage below 15 °C the quality of ONGRONAT® TR 4100 may 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 (dimerization) 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 that becomes extremely fast above 250 °C, so care must be taken to avoid this 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, IBCs or storage tanks). Dry air is not recommended for this purpose because it may cause oxidation and due to this, the colour of the product may become darker. Carbon dioxide (CO₂) is soluble in isocyanates, therefore it is not recommended to be used as inert gas either.

TECHNICAL DATA SHEET (TDS)

ONGRONAT® TR 4100



SAFETY PRECAUTIONS

Handle the material with care. Avoid contact with water and moisture. Reaction with water always results formation of CO₂ and therefore increase of pressure in the closed storage container. Avoid contact with skin and eyes. Do not inhale the

vapours of the product. Detailed safety information available on the www.borsodchem-group.com website and in the specific Safety Data Sheet.

Version: English
Date: 01.10.2019
Technical Data Sheet (TDS)
ONGRONAT® TR 4100

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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