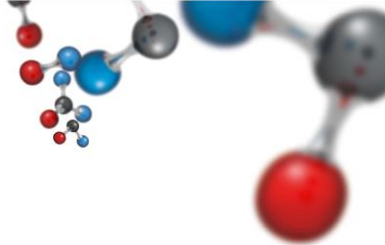


TECHNICAL DATA SHEET (TDS)

ONGRONAT® TR 4011



- **Product Description:** ONGRONAT® TR 4011 is a mixture of m-toluene-diisocyanate isomers, MDI mixed isomers and polymeric MDI
- **Appearance:** Solvent-free, brown, low viscosity liquid at room temperature
- **Industry:** Transport
- **Applications:** Seats, headrests & armrests

SPECIFICATIONS

Property	Value	Dimension	Test method
NCO	34.9 – 36.9	wt%	BorsodChem Method PAK 22
Viscosity (at 25 °C)	7 - 17	mPa.s	ASTM D4889

OTHER PROPERTIES*

Property	Value	Dimension
Density (at 25 °C)	1.21	g/cm ³

*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 4011 can be loaded and transported in road tankers 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. ONGRONAT® TR 4011 is shipped according to the above mentioned delivery temperature range in the lack of any special requirement.

Storage: It is advised to store the product within the temperature range of 20-30 °C. Under these conditions ONGRONAT® TR 4011 preserves its quality for max. six (6) months from the date of production. During the loading and the storage of the drummed products the instructions of ADR, RID, IMDG and the recommendation of ISOPA have to be strictly observed. The product must not come into contact with water since it leads to objectionable chemical reaction,

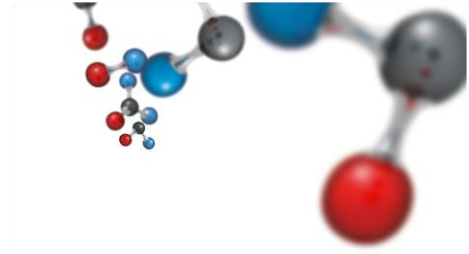
therefore it must be protected from water ingress and atmospheric moisture. In order to protect the material from atmospheric moisture a dry inert gas blanket (nitrogen) with a dew point of -40 °C must be used for any type of containers (drums or storage tanks). Dry air is not recommended for this purpose because it could cause oxidation and due to this, the colour of the product may become darker. Carbon dioxide (CO₂) is soluble in isocyanates, therefore it is not recommended to be used as inert gas either.

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.

TECHNICAL DATA SHEET (TDS)

ONGRONAT® TR 4011



Version: English
Date: 01.9.2014
Technical Data Sheet (TDS)
ONGRONAT® TR 4011

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.



Manufactured by:

BorsodChem Zrt.
Bolyai tér 1.
H-3700, Kazincbarcika
HUNGARY
Phone: +36-48 511-211
Fax: +36-48-511-511