

Technical Data Sheet

RUBINATE® M MDI

Polymeric Diphenylmethane Diisocyanate

DESCRIPTION

RUBINATE M MDI is a standard polymeric diphenylmethane diisocyanate.

Typical Properties	
Color	Brown Liquid
Isocyanate Equivalent Weight	135
NCO content, %	31.2
Viscosity at 77°F (25°C), cps	190
Specific Gravity at 77°F (25°C)	1.23
Flash Point, (Cleveland Open Cup) °C (°F)	230 (446)
Vapor Pressure at 77°F (25°C) (mm Hg)	< 10 ⁻⁵
Functionality	2.70
Recommend Storage Temperature	60-100°F (16-38°C)
Shelf Life	10 Months

APPLICATIONS

RUBINATE M MDI is designed for use in the manufacture of cellular and non-cellular polyurethane products including adhesives, semi-rigid foams, elastomers, flexible foams and encapsulating agents.

Note: Products made from RUBINATE M MDI will yellow with exposure to UV light (including sunlight). Users should make their own tests to determine the suitability of this product for their own particular purposes.

HANDLING AND STORAGE

Moisture, either as a vapor or liquid, is the most probable cause of diisocyanate contamination. RUBINATE M MDI reacts readily with water, producing solid deposits and evolution of carbon dioxide gas. Storage under a slight positive pressure (a few inches water gauge) of dry nitrogen is essential to prevent ingress of moisture. Care should be taken, however, in using any pressure above 5 psig., as increasing solubility of the gas in the diisocyanate may adversely affect further processing steps or products. Carbon dioxide should not be used for this purpose at any pressure because of its solubility in diisocyanates.

Freshly manufactured RUBINATE M MDI is a brown liquid. Sedimentation is usually due to contamination from atmospheric moisture or to dimer formation. Reaction from atmospheric moisture can be prevented by storing RUBINATE M MDI in carefully sealed containers or under a dry nitrogen atmosphere. During handling, RUBINATE M MDI must also be protected from atmospheric moisture and water ingress, and containers must be carefully resealed after each sampling.

A small amount of finely divided insoluble solid in the liquid product does not usually cause difficulties in handling or product performance. However, if necessary, the liquid product may be filtered through a suitable in-line filter. It is suggested that the filter vessel be of stainless steel with a suitable polypropylene filter bag. The lines should be heated and blown clear with nitrogen after use.

The recommended storage temperature for RUBINATE M MDI is 60-100°F (16-38°C). If the product has been exposed to temperatures below the recommended storage temperatures for more than a few hours, the material may increase in viscosity. If this occurs, the product may be heated to room temperature to reduce viscosity.

Empty containers should not be disposed of until all hazardous residue has been removed. Remove container from work area, preferably outdoors, or in a well ventilated area. Fill container with decontamination solution containing 3-8% ammonia and 0.2-0.5% detergent and allow to stand for 48 hours. Do not seal or otherwise close bungs in container. After draining the container, puncture or crush it in accordance with waste disposal regulations.

REACTIVITY HAZARD

RUBINATE M MDI is an organic isocyanate and, as such, requires care in handling because it reacts with water and organic compounds containing active hydrogen groups. Because the reaction of RUBINATE M MDI with water produces carbon dioxide gas, containers that have become contaminated with moisture should not be subsequently sealed; otherwise, pressure build-up will result.

ATTENTION

This product is sold solely for use by industrial institutions. Please refer to the Material Safety Data Sheet (MSDS) regarding regulatory compliance, safety, hazards, spill procedures and disposal of this product.

For Your Protection**HEALTH AND SAFETY**

The Safety and Health information in this data sheet does not contain sufficient detail for safe handling in all cases. For detailed safety and health information refer to the Material Safety Data Sheet for this product.

EMERGENCY CALLS: Huntsman Emergency Response Center: 800-328-8501, 409-722-8381 / CHEMTREC - Spills, Leak, Fire 800-424-9300 (in USA and Canada)

IMPORTANT LEGAL NOTICE: Sales of the products described herein ("Product") are subject to the general terms and conditions of sale of Huntsman Corporation and its affiliates and subsidiaries (collectively, "Huntsman").

To the knowledge, information and belief of Huntsman, all the information and recommendations in this publication are accurate as of the date of publication.

WARRANTY:

Huntsman warrants that at the time and place of delivery all Products sold to a buyer of such Products shall conform to the specifications provided by Huntsman to such buyer of such Products.

DISCLAIMER AND LIMITATION OF LIABILITY:

EXCEPT AS SET FORTH ABOVE, HUNTSMAN MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT OF ANY THIRD PARTY, OR WARRANTIES AS TO QUALITY OR CORRESPONDENCE WITH PRIOR DESCRIPTION OR SAMPLE, AND ANY BUYER OF PRODUCTS DESCRIBED HEREIN ASSUMES ALL RISK AND LIABILITY WHATSOEVER RESULTING FROM THE USE OF SUCH PRODUCT, WHETHER USED SINGLY OR IN COMBINATION WITH OTHER SUBSTANCES. Chemical or other properties purported to be typical of such Products, where stated herein, should be considered as representative of current production and should not be construed to be specifications of any such Products. In all cases, it is the sole responsibility of a buyer to determine the applicability of the information and recommendations contained in this publication and the suitability of any Product for its own particular purpose, and no statements or recommendations made herein are to be construed as a suggestion, recommendation, or authorization to take any action that would infringe any patent or other intellectual property right. A buyer or user of a Product is solely responsible for ensuring that its intended use of such Product does not infringe any third party's intellectual property rights. Huntsman's maximum liability for any claim related to the Products described herein or breach of an agreement associated therewith shall be limited to the purchase price of the Products or portion thereof to which such claim pertains. IN NO EVENT SHALL HUNTSMAN BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL OR PUNITIVE DAMAGES, INCLUDING BUT NOT LIMITED TO ANY DAMAGES FOR LOST PROFITS OR BUSINESS OPPORTUNITIES OR DAMAGE TO REPUTATION.

WARNING:

The behaviour, hazardousness and/or toxicity of the Products referred to in this publication in manufacturing processes and their suitability in any given end-use environment are dependent upon various conditions such as chemical compatibility, temperature, and other variables, which may not be known to Huntsman. It is the sole responsibility of the buyer or user of such Products to evaluate the manufacturing circumstances and the final Product(s) under actual end-use requirements and to adequately advise and warn future purchasers and users thereof.

Products referred to in this publication may be hazardous and/or toxic and require special precautions in handling. A buyer should obtain Material Safety Data Sheets from Huntsman containing detailed information on hazardousness and/or toxicity of the products contained herein, together with proper shipping, handling and storage procedures, and should comply with all applicable safety and environmental standards. The Product(s) described herein have not been tested for, and is therefore not recommended or suitable for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended or likely, or for uses for which implantation within the human body is intended, and Huntsman assumes no liability for such uses.

Unless otherwise specified, Huntsman shall not be liable for or otherwise have any obligation to a buyer of any Products contained in this publication for any technical or other information or advice furnished by Huntsman in this publication.

RUBINATE® is a registered trademark of Huntsman Corporation or an affiliate thereof in one or more, but not all countries.

Copyright © 2010 Huntsman Corporation. All rights reserved.

Approved: Kevin A Buck

For further information, please visit our website at: www.huntsman.com/pu/ACE