Environment Health and Safety Literature

PRODUCT STEWARDSHIP

is a key priority for the American Chemistry Council's Center for the Polyurethanes Industry (CPI). CPI provides environment, health and safety (EHS) literature about polyurethanes to producers, applicators and other trade associations to help support the continued safety of people and the environment. CPI's library of information includes guidance materials on general polyurethane product safety, worker protection, toxicity, waste disposal, transportation guidelines, industrial hygiene, and regulatory compliance. A number of the documents are also available in other languages. CPI's product stewardship approach to EHS focuses on the importance of safety considerations at all phases of product development, application and disposal. This brochure provides only a brief sample of the literature that is available free through CPI. For a full list of literature, check out our websites at www.polyurethane.org and www.spraypolyurethane.org.

Environment, Health and Safety

Guidance for Working with Aliphatic Diisocyanates

This paper provides additional information about important health and safety considerations when working with handling aliphatic diisocyanates (ADIs), specifically hexamethylene diisocyanate (HDI), methylene dicyclohexyl diisocyanate or hydrogenated MDI (HMDI) and isophorone diisocyanate (IPDI), and their polyisocyanates.

Disposal of Empty Drums Containing Polyurethane Chemicals

This poster was developed to provide general guidelines for disposal of empty drums. This file is designed to be a 2-foot by 3-foot poster, available for download in full-size, high-resolution files which are ready-to-print.

Guidance Document for the Purpose of Determining Occupancy Classifications Involving the Storage, Use and Handling of MDI and PMDI

This document was developed for the purpose of assisting Building and Fire Code Officials in their assessment as to the appropriate occupancy classification in facilities storing and utilizing MDI and PMDI.

Guidance for Developing a Written Respiratory Protection Program (AX-501)

This guidance document provides regulatory background and a model respiratory program form that addresses the Occupational Health and Safety Administration's (OSHA's) Respiratory Protection Program Standard (29 CFR §1910.134) that applies to respirator use in general industry and construction workplaces. The program provides guidance on respirators, respirator use, storage, fit and evaluation.

American Chemistry Council | Center for the Polyurethanes Industry

Health and Safety Guidance for Installation of Outdoor Polyurethane Running Track Surfaces (AX-502)

This guidance document is intended to provide safe handling information to professional contractors installing outdoor running track surfaces utilizing polyurethane materials. The primary purpose is to provide information to users and outline protective measures and practices for handling polyurethane (PU) or diisocyanate-containing products.

Health Effects of Diisocyanates: Guidance for Medical Personnel (AX-150)

This guidance document is designed specifically for medical personnel to provide information about the potential health effects from diisocyanate exposure, and to provide guidance to assist with medical diagnosis and management. The discussion focuses on two widely used diisocyanate-based products: diphenylmethane diisocyanate (MDI) and toluene diisocyanate (TDI).

Uniform Hazardous Waste Manifest (AX-406)

This document provides information on the U.S. Environmental Protection Agency (EPA) Uniform Hazardous Waste Manifest. EPA requires hazardous waste generators and transporters to use the Uniform Hazardous Waste Manifest for hazardous waste shipments, including waste toluene diisocyanate (TDI), which is a listed hazardous waste (U223).

CPI Guidance on OSHA's Revised Hazard Communication Standard: Globally Harmonized System (GHS) of Classification and Labeling of Chemicals (AX-500)

This document provides general information on the Occupational Safety and Health Administration (OSHA) modifications to the Hazard Communication Standard (HCS) to conform with the United Nations (UN) Globally Harmonized System of Classification and Labeling of Chemicals (GHS). The updated standard will apply to manufacturers and workers who produce or handle hazardous chemicals across the United States.

Guidance for Working with MDI and Polymeric MDI: Things You Should Know (AX-205)

An easy-to-read, brochure which provides information about important health and safety considerations when working with MDI or Polymeric MDI.

Guidance for Working with TDI: Things You Should Know (AX-202)

An easy-to-read, brochure which provides information about important health and safety considerations when working with TDI.

Guidance for Melting 4,4'-Methylene Diphenyl Diisocyanates (MDI) in Drums (AX-363)

This guidance provides information that is intended to serve as a general guideline on how to heat drums to melt frozen or fused MDI.

Guidance for Melting Toluene Diisocyanates (TDI) in Drums (AX-364)

This guidance provides information that is intended to serve as a general a guideline on how to heat drums to melt frozen or fused TDI.

Occupational Hygiene Air Monitoring for MDI and TDI Guidance (AX-248)

This guidance document describes workplace air monitoring methods for MDI and TDI, and provides information on personal and area sample collection. Several instruments and derivatization methods for monitoring vapors are presented.

General Guidance on EPA's Risk Management Program Requirements and TDI (AX-404)

A guidance document that provides general guidance on Section 112(r) of the Clean Air Act (CAA), which requires the EPA to promulgate regulations for the prevention and mitigation of accidental releases of extremely hazardous substances. Under this section, EPA establishes a list of regulated substances, which includes TDI, and thresholds and issued the Chemical Accident Prevention Provisions. Amongst the various requirements of this rule, regulated companies must submit a Risk Management Plan (RMP).

Hazard Information to Consider When Labeling of Diphenylmethane Diisocyanate (MDI), Polymeric MDI and Isocyanate-terminated MDI Prepolymers Containing Products for the Consumer Market (AX-264)

This document provides information about the potential hazards from exposure to diphenylmethane diisocyanate (MDI), polymeric MDI (PMDI) and Isocyanate-terminated MDI prepolymers. This information is intended to assist company label writers who are responsible for communicating the potential hazards and safe handling guidelines for consumer products to prospective customers, also known as Do-It-Yourself (DIY) users.

Polyurethane Amine Catalysts Guidelines for Safe Handling and Disposal (AX-173)

These guidelines provide general information to workers, supervisory personnel, and others about health/safety issues associated with the use of polyurethane amine catalysts. The safety/health information provided in this bulletin is for the pure amine catalysts only.

Polyurethane and Thermal Degradation (AX-396)

Polyurethane is a material that can be found in many of the products that we use in our daily lives. Heating of polyurethanes or polyurethane containing-articles may be necessary during processing and/or product applications. Under normal processing conditions, this may not result in thermal decomposition. This document highlights the toxic products that may be of concern when polyurethanes are thermally degraded, and some worker safety and health precautions to consider.

Guidelines for Diisocyanate Storage Tank Systems (AX-365)

This document is intended to provide general guidance for describing various equipment options for storage tank systems intended for diisocyanate product service. The document includes a reference table of equipment options, which is supplemented by additional text.

Guidelines for the Responsible Disposal of Wastes and Containers from Polyurethane Processing (AX-151)

This guidance document is designed to help processors of polyurethane chemicals manage resulting waste chemicals and empty containers in a responsible manner that conforms to federal and state regulations. In particular, this guide focuses on those chemicals used in polyurethane processing operations that may be regulated as hazardous waste.

Guidance for the Selection of Protective Clothing for MDI Users (AX-178)

Describes useful guidance on selecting the appropriate PPE and the performance characteristics of gloves, coveralls, splash suites, and other protective suites commonly used when working with MDI.

Guidance for the Selection of Protective Clothing for TDI Users (AX-179)

Describes useful guidance on selecting the appropriate PPE and the performance characteristics of gloves, coveralls, splash suites, and other protective suites commonly used when working with TDI.

Polyol Resin Blends Safety and Handling Guidelines (AX-228)

These guidelines provide important health and safety considerations associated with working with polyol resin blends. Polyurethane foams are often made using "systems," sometimes called "A-side" and "B-side," or "iso side" and "resin side." The hazards of the polyol resin are different from those of the diisocyanates, and different precautions should be taken when handling the individual components. This guide gives a brief summary of hazards that may be associated with the "resin side" of systems and addresses important issues to consider in the safe handling of these chemicals.

Transportation

Guidelines for Receiving and Unloading MDI (AX-198)

This guidance document provides basic principles to users receiving, unloading and handling Methylene Diphenyl Diisocyanate (MDI) in a variety of packagings. This document summarizes some, but not all, U.S. Department of Transportation (DOT) regulatory requirements and industry practices regarding receiving, unloading and handling of MDI.

Guidelines for Receiving and Unloading TDI (AX-188)

This guidance document provides basic principles to users receiving, unloading and handling Toluene Diisocyanate (TDI) in a variety of packagings. This document summarizes some, but not all, U.S. Department of Transportation (DOT) regulatory requirements and industry practices regarding receiving, unloading and handling of TDI.

Guidelines for Freight Securement: Freight Loading and Securement for Chemical Shipments in the Polyurethane Industry (AX-173)

This guidance document is intended to provide basic principles and examples of freight loading and securement for intermodal domestic and international shipments. The document is intended for transportation professionals that ship or receive polyurethane related materials. The comprehensive guidance document provides useful and essential safety mechanisms, preload inspection of trailers and containers, restraint systems and the closure of the transport containers. Clear, detailed photographs provide helpful representations of appropriate freight loading and securement practices. This document also references regulatory and modal requirements governing these shipments.

Guidelines for Transloading Polymeric Methylene Diphenyl Diisocyanates (pMDI) (AX-409)

This document provides guidelines for facility owners and/or operators interested in transloading Polymeric Methylene Diphenyl Diisocyanate (pMDI) from rail tank cars to cargo tank trailers.

Unloading Methylenediphenyl Diisocyanate (MDI) Rail Cars

This poster was developed to provide general guidelines during delivery, hookup, and unloading of a rail car containing MDI.

Unloading Methylenediphenyl Diisocyanate (MDI) Tank Trucks

This poster was developed to provide general guidelines during delivery, hookup, and unloading of a tank truck containing MDI.

Unloading Toluene Diisocyanate (TDI) Rail Cars

This poster was developed to provide general guidelines during delivery, hookup, and unloading of a rail car containing TDI.

Unloading Toluene Diisocyanate (TDI) Tank Trucks

This poster was developed to provide general guidelines during delivery, hookup, and unloading of a tank truck containing TDI.

Unloading Non-Regulated Polyol and Urethane Resin System Tank Trucks

This poster was developed to provide general guidelines during delivery, hookup, and unloading of a non-regulated polyol and urethane resin system tank truck.

Safe Handling of Diphenylmethane Diisocyanate (MDI) and Safe Handling of Toluene Diisocyanate (TDI) Videos

The one hour videos are separated into six parts including: Hazard Communication, Drums and Intermediate Bulk Container (IBCs) Handling, Tank Container Transfer, Cargo Tank Trailer Transfer, Rail Tank Car Transfer, and Emergency Response procedures.

Spray Truck Bed Liner

Isocyanate-based Spray-on Linings: Worker Protection (AX-362)

The purpose of this document is to keep owners, operators and workers in the spray-on linings industry informed about important worker safety and health information associated with isocyanates based spray-on lining products.

Guidance Document on Spray-on Polyurethane/Polyurea-Based Lining Applications Containing Isocyanates (AX-405)

This guidance document provides information to professionals concerning important health and safety aspects when working with isocyanates during spray-on lining applications.

Exposure Control Guidelines in the Truck Bed Liner (TBL) Industry for High and Low Pressure System Applications (AX-417) and (AX-416)

These guidelines have been prepared to provide general information and to explain the precautions and practices associated with the safe handling of MDI in the truck bed lining (TBL) industry during high and low pressure system applications.

Spray Foam Health and Safety

Spray Polyurethane Foam (SPF) Health and Safety Website

This website provides homeowners, professional contractors, weatherization contractors and do-it-yourselfers with information about SPF and important safety guidelines for application. The website also contains an additional resource library including posters, presentations and videos about spray polyurethane foam. Listed below are a few samples of the many useful resources found on the website.

Health and Safety Product Stewardship Workbook for High-Pressure Application of Spray Polyurethane Foam (SPF)

The Workbook provides guidance to applicators and helpers who apply professional grade high-pressure spray polyurethane foam in both interior and exterior construction applications.

Working Safely with Low-Pressure SPF Insulation

This video provides general guidance for professionals on how to apply low-pressure spray polyurethane foam. It is intended as a supplement to other job safety information already available such as specialized training, Safety Data Sheets (SDS), product label information and other materials.

Guidelines for Exterior High-Pressure Spray Polyurethane Foam Insulation Health and Safety Q&A

This document describes general guidelines for exterior (i.e., applications done on the outside of a building) spray polyurethane foam (SPF) application.

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