

CLOCK SPRING COMPANY L.P.

621 LOCKHAVEN DRIVE
HOUSTON, TX 77073
Phone: 281-590-84911
EMAIL: MSDS@clockspring.com

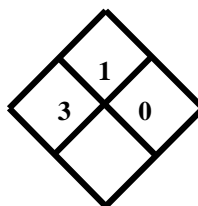


MATERIAL SAFETY DATA SHEET

Effective Date: 7/31/12**Material Safety Data Sheet****MSDS No: 6011****1. PRODUCT IDENTIFICATION**

SUPPLIER: CLOCK SPRING COMPANY L.P.
621 LOCKHAVEN DRIVE
HOUSTON, TX 77073
PHONE: 281-590-8491
EMAIL: MSDS@CLOCKSPRING.COM

MANUFACTURER: Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387
Non-Emergency phone: (800) 257-5547

**NFPA RATING**

Health:	3
Flammability:	1
Reactivity:	0
Personal Protection:	

HMIS RATING**Trade Name: CS HT181 FILLER HARDENER****Chemical Family:** Amine**Synonyms:**

HT 181 FILLER HARDENER

Intended Use or Product Type: Heat resistant hardener**IN CASE OF EMERGENCY:** CHEMTREC USA: (800) 424-9300 INTERNATIONAL: (703) 527-3887 [CONTRACT # 5043](#)**2. COMPOSITION / INFORMATION ON INGREDIENTS**

O S H A	CAS No.	CHEMICAL IDENTITY	EXPOSURE LIMITS					CARCINOGEN STATUS		
			ACGIH		OSHA		MFR.	IARC	NTP	OSHA
			TWA	STEL	PEL	STEL				
*	1477-55-0	1,3-Benzenedimethanamine	NE	0.1 mg/m3	NE	NE	NE	NR	NR	NR
	Common Name: Concentration	m-Xylenediamine 10.00 - 30.00 % by wt								
*	2855-13-2	Cyclohexanemethanamine, 5-Amino-1,3,3-Trimethyl-Isophorone diamine	NE	NE	NE	NE	NE	NR	NR	NR
	Common Name: Concentration	30.00 - 60.00 % by wt								
*	616-47-7	1H-Imidazole, 1-Methyl-1-Methylimidazole	NE	NE	NE	NE	NE	NR	NR	NR
	Common Name: Concentration	1.00 - 5.00 % by wt								
*	68738-77-2	1,3-Benzenedimethanamine, Polymer with 2,2'-[(1-Methylethylidene)Bis(4,1-Phenyleneoxymethylene)]Bis[Oxirane] and 2,2,4-Trimethyl-1,6-Hexanediamine MXDA/TMD/DGEBA adduct	NE	NE	NE	NE	NE	NR	NR	NR
	Common Name: Concentration	30.00 - 60.00 % by wt								

Emergency Overview: Corrosive - Causes skin and eye burns. Harmful if absorbed through skin. May cause allergic skin and respiratory reactions.

NE = Not Established NR = Not Reviewed * = OSHA Hazardous Ingredient

Primary Route(s) of Entry: Dermal; heated product may produce inhalable vapors.

Acute Exposure: Corrosive. Causes skin and eye burns.

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes. Seek immediate medical attention.

Inhalation: Remove to fresh air. Seek immediate medical attention.

Eyes: Immediately flush eyes with water for at least 15 minutes. Seek immediate medical attention.

Overexposure Effects: Corrosive - causes skin and eye burns. Harmful if absorbed through skin. May cause allergic skin and respiratory reactions.

Medical Conditions Aggravated by Exposure: Skin, eye and pulmonary conditions.

Additional Information: Referral to a physician is recommended if there is any question about the seriousness of any injury.

5. FIRE FIGHTING MEASURES

Flash Point: > 250°F (> 121 °C)

Flash Point Method Used: PMCC

Flammable Limits in Air (Lower - % by volume): Not established

Flammable Limits in Air (Upper - % by volume): Not established

Fire Fighting Extinguishing Media: Carbon dioxide, dry chemical, foam, water.

Fire Fighting Equipment: Use self-contained breathing apparatus.

Fire and Explosion Hazards: Decomposition and combustion products may be toxic.

6. ACCIDENTAL RELEASE MEASURES

3. HAZARDS IDENTIFICATION

Accidental Release Measures: Remove spillage by absorbing in absorbent material.

7. HANDLING AND STORAGE

Signal Word: Danger!

Precautions: Corrosive - causes skin and eye burns. Can cause allergic respiratory reaction and allergic skin reaction. Can be harmful if absorbed through skin. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or mist. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling.

Other Handling Information: Nuisance dust may be generated when sanding or sawing cured material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Skin Protection: Wear impermeable gloves.

Respiratory Protection: Use NIOSH approved organic vapor cartridge respirator when vapor/mist exposure is likely.

Eye Protection: Wear splash-proof chemical goggles.

Engineering Controls: General mechanical and local exhaust in accordance with ACGIH recommendations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Clear Amber
Physical State:	Liquid
Solubility in Water:	Moderate
Vapor Pressure:	Not Determined
Specific Gravity:	1.05 (water = 1)
Boiling Point:	> 400°F (> 204 °C)
Evaporation Rate:	Not Determined
Vapor Density:	Not Determined
VOC:	Negligible
pH:	(Not Determined)
Coefficient of water/oil:	Not Determined

10. STABILITY AND REACTIVITY

Conditions to Avoid: Excessive heat for prolonged periods of time.

Stability: Stable.

Incompatibility: Strong oxidizers, acids and bases.

Hazardous Decomposition Products: Combustion may form toxic materials, such as carbon dioxide, carbon monoxide.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Dermal Toxicity (LD50): Component(s) are toxic, 200 - 1000 mg/kg (rabbit).

Sensitization: May cause allergic skin reaction and respiratory sensitivity in some people.

Skin Irritation: Corrosive. Causes burns.

Eye Irritation: Corrosive. Causes burns.

12. ECOLOGICAL INFORMATION

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

14. TRANSPORT INFORMATION

DOT: Non-Bulk

Proper Shipping Name:	Polyamines, liquid, corrosive, n.o.s.
Technical Shipping Name (If n.o.s.):	Isophorone diamine, Metaxylenediamine
Hazard Class:	8
ID Number:	UN 2735
Packing Group:	PG III
Label:	Corrosive

IATA: Non-Bulk

Proper Shipping Name:	Polyamines, liquid, corrosive, n.o.s.
Technical Shipping Name (If n.o.s.):	Isophorone diamine, Metaxylenediamine
Hazard Class:	8
ID Number:	UN 2735
Packing Group:	PG III
Label:	Corrosive

IMDG: Non-Bulk

Proper Shipping Name:	Polyamines, liquid, corrosive, n.o.s.
Technical Shipping Name (If n.o.s.):	Isophorone diamine, Metaxylenediamine
Hazard Class:	8
ID Number:	UN 2735
Packing Group:	PG III
Label:	Corrosive

TDG: Non-Bulk

Proper Shipping Name:	Polyamines, liquid, corrosive, n.o.s.
Technical Shipping Name (If n.o.s.):	Isophorone diamine, Metaxylenediamine
Hazard Class:	8
ID Number:	UN 2735
Packing Group:	PG III
Label:	Corrosive

15. REGULATORY INFORMATION

US Federal Regulations:

Occupational Safety and Health Act (OSHA): This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.

Resource Conservation and Recovery Act (RCRA): Not a hazardous waste under RCRA (40 CFR 261) but handle with care due to corrosive effect on skin and eyes.

SARA Title III: Section 313 Toxic Chemical List (TCL): This product does not contain any chemicals for routine annual toxic chemical release reporting under Section 313 (40 CFR 372).

TSCA Section 8(b) - Inventory Status: All chemical components of this product are in compliance with TSCA inventory requirements.

TSCA Section 12(b) - Export Notification: This product does not contain any chemical(s) that are subject to a Section 12(b) export notification.

International Regulations:

Australian Inventory Status: This product contains one or more chemicals currently not on the Australian Inventory of Chemical Substances.

Canadian Inventory Status: This product contains only chemicals that are currently listed on the Canadian Domestic Substance List.

Canadian WHMIS: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations. D2B, E

European Inventory Status (EINECS): This product contains only chemicals that are currently listed on the European Inventory of Existing Commercial Chemical Substances (EINECS).

Japanese Inventory Status: This product contains one or more chemicals currently not on the Japanese Ministry of International Trade and Industry List of Existing and New Chemical Substances.

State Regulations:

California Proposition 65: This product does not contain any chemicals currently on the California list of Known Carcinogens and Reproductive Toxins.

Pennsylvania Right-to-Know: The following is required composition information:

Chemical Name: 1,3-Benzenedimethanamine, Polymer with 2,2'-[(1-Methylethylidene)Bis(4,1-Phenyleneoxymethylene)]Bis[Oxirane] and 2,2,4-Trimethyl-1,6-Hexanediamine

Common Name: MXDA/TMD/DGEBA adduct

CAS Number: 68738-77-2

Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Cyclohexanemethanamine, 5-Amino-1,3,3-Trimethyl-

Common Name: Isophorone diamine

CAS Number: 2855-13-2

Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: 1,3-Benzenedimethanamine
Common Name: m-Xylenediamine
CAS Number: 1477-55-0
Comment: Hazardous Substance

Chemical Name: 1H-Imidazole, 1-Methyl-
Common Name: 1-Methylimidazole
CAS Number: 616-47-7
Comment: Not on Pennsylvania Hazardous Substance List

16. OTHER INFORMATION

MSDS No:	6011
Reason Issued:	12/09 update MSDS
Approved By:	Matt Austin
Title:	EHS Chemist

Other Information: B10020030 (B03)

Disclaimer: The information and recommendations contained herein are based upon tests in controlled laboratory conditions, are believed to be correct, and are provided for the sole purpose of hazard communication as part of Clock Spring's product safety program. This product has not been tested for, and therefore is 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 Clock Spring assumes no liability for any such uses.

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Effective Date: 7/31/12

CS HT 181 FILLER HARDENER

CLOCK SPRING COMPANY L.P.

Prepared By:

Clock Spring Company L.P.

Prepared on 7/31/12

From Information Supplied By:

Huntsman Advanced Materials Americas LLC
P.O. Box 4980

Supercedes 12/4/09

The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547

The Information in the Material Safety Data Sheet has been compiled from our experience and data presented in various technical publications. It is the user's responsibility to determine the suitability of this information for the adoption of the safety precautions as may be necessary. We reserve the right to revise Material Safety Data Sheets from time to time as new technical information becomes available. The user has the responsibility to contact the company to make sure that the sheet is the latest on issued.