MATERIAL SAFETY DATA SHEET
Date Issued: 7/9/2013
MSDS: Hanson 3233

1. PRODUCT AND COMPANY IDENTIFICATION

Hanson Group LLC
900 McFarland 400 Boulevard
Alpharetta, GA 30004
770-815-4548

PRODUCT DESCRIPTION: Mixture of amines
PRODUCT CODE: 3233 Hardener
GENERIC NAME: Amines

24 Hour emergency response CHEMTREC 800-424-9300

2. HAZARDS IDENTIFICATION

LD50 LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.

Routes of Entry: Inhalation:
YES

Skin:
YES

Ingestion:
YES

Reports of Carcinogenicity:
NTP:
YES IARC:
YES
OSHA:
YES

Health Hazards Acute and Chronic:
FEVER, CHILLS, LOSS OF APPETITE, VOMIT, JAUNDICE, IRRIT
SKIN/EYE/MUCMEMP, STAIN SKIN, ALLERGIC SKIN RX (DERM), HARMFUL AMTS
CAN BE ABSORB THRUSKIN, CONTAINS MDA WHICH MAY CAUSE CACN, LIVER
TOXIN, DMG LIVER/KIDNEY/BLOOD/SPLEEN/THYROID/EYES.
SOME PEOPLE MAY DEVELOP SKIN/RESP SENSTO MPDA-CONTAINING PROD.SEVERE RESP SEN,LUNG INSUFFI

Explanation of Carcinogenicity:
PER MSDS:
CARCINOGEN LISTINGS BY
OSHA/NTP/IARC:
YES.

Effects of Overexposure:
SEE HEALTH HAZARDS.

Medical Cond Aggravated by Exposure:
PRE-EXISTING EYE/SKIN/RESPDISORDERS MAY BE AGGRAVATED BY EXPO TO THIS PRODUCT.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingred Name: 4,4'-METHYLENE DIANILINE; CAS: 101-77-9 ; RTECS #: BY5425000
Fraction by Wt: 20-35%

Ingred Name: M-PHENYLENEDIAMINE; CAS: 108-45-2  RTECS #: SS7700000
Fraction by Wt: 50-65%

Ingred Name: AMINE TERMINATED POLYMERIC (PROPRIETARY)
Fraction by Wt: 10-25%

4. FIRST AID MEASURES

EYE: IMMED FLUSH W/PLENTY OF (PREFER LUKEWARM)WATER FOR@LEAST15MINS.KEEP EYELIDS OPEN ALL TIME.SEEK IMMED MED ATTN.

SKIN: IMMEDWASH W/SOAP/PLENTY OF WATER.

INHAL: REMOVE TO FRESH AIR.NOT BREATHGIVE ART RESP.BREATH DIFFICULT GIVE XOY.GET MEDATTN.

INGEST: DO NOTINDUCE VOMIT.PERSON CONSC GIVE 1 TO 2 CUPS OF MILK/WATER T0DRINK.DO NOT GIVE ANYTHING BY MOUTH IF UNCONSC.CONSULT PHYSICIAN IMMED.(SUPPLEME)

NOTE
IN ALL CASES, A PHYSICIAN SHOULD BE CONSULTED. PEOPLE EXPOSED TO MDA WILL PROBABLY NEED MEDICAL SURVEILLANCE.
5. FIRE FIGHTING MEASURES

Flash Point: N/D
Autoignition Temp: N/D

Extinguishing Media:
USE WATER SPRAY, DRY CHEMICAL, CO2 TO EXTINGUISH

Fire Fighting Procedures:
USE WATER TO KEEP CNTNR COOL. SINCE VAPOREXCEEDINGLY IRRIT WHEN INHAL SELF-CONTAINED POSITIVE PRESSURE BREATHING APPARATUS SHOULD BE AVAILABLE TO FIREMEN.

Unusual Fire/Explosion Hazard:
NONE SPECIFIED BY MANUFACTURER.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as diatomaceous earth, sawdust, vermiculite, or any appropriate readily available material and sweep or shovel absorbed material into closed containers for disposal. After all visible traces, including ignitable vapors, have been removed thoroughly wash the contaminated area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal.

Wear the appropriate personal protective equipment designated in Section 8, remove the leaking container to a containment area and place into an appropriate container to prevent any further spill.

LARGE SPILL: Construct temporary dikes of dirt or sand to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as diatomaceous earth, sawdust, vermiculite, or any appropriate readily available material and sweep or shovel adsorbed material into closed containers for disposal. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal.

Wear the appropriate personal protective equipment designated in Section 8, close or cap leaking valves and/or block or plug hole in leaking container. Remove the leaking containers to a containment area and place into an appropriate container to prevent any further spill.

Contain material as described above and call the local fire, police, or appropriate emergency response provider for immediate emergency assistance.
ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of material into sources of water.

GENERAL PROCEDURES: Absorb spill with an emergency spill kit, diatomaceous earth, saw dust or equivalent inert material. Shovel up and dispose of at an appropriate waste disposal facility following applicable laws and regulations.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Store product in original containers. Store container in a secure cool, dry, well-ventilated area.

HANDLING: Use with sufficient ventilation to keep employee exposure below recommended limits. Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Avoid contact of liquid with eyes and prolonged skin exposure. Avoid breathing in vapors, mists, and aerosols. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

STORAGE: Store and warehouse product in an appropriate area or facility. Segregate like materials together to avoid negative chemical reactions. Protect materials from excessive exposure to heat. Store in a well-ventilated area. Store in original container. Keep away from heat and sources of ignition.

COMMENTS: If bulging of containers occurs, transfer to a well-ventilated area and open carefully to relieve pressure then reseal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures: Ensure adequate ventilation, especially in confined areas.

Personal protection equipment: Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.
Eye protection: Tightly fitting safety goggles. Face-shield.
Hand protection: Solvent-resistant gloves.
Skin and body protection: Solvent-resistant apron and boots. Protective suit. Remove and wash contaminated clothing and gloves, including the inside, before re-use.
Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment with filter classification: N-95 or if oil/liquid aerosols are present P-95 (42 CFR 84). In USA use a NIOSH/MSHA approved respirator.

COMMENTS: Always practice "good personal hygiene" during and after use of this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. DO NOT eat, drink, or smoke in work areas that contain hazardous chemicals.
9. PHYSICAL AND CHEMICAL PROPERTIES

These data do not represent technical or sales specifications.

Form: Liquid
Color: Dark amber
Odor: Hydrocarbon-like
pH: N.A.
Boiling point/range: N/A
Melting point/range: N.D.
Flash point: N.D.
Autoignition temperature: N.D.
Bulk density: N.A.
Explosion limits: N.D.
Vapor pressure: N.D.
Relative density/Specific Gravity: 1.14
Vapor density: >1
Viscosity: N.D.
Water solubility: N.D.
Solubility: N.D.

Abbreviations: N.D. - Not Determined
N.A. - Not Applicable

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions. Decomposes on heating.

Hazardous decomposition products: No decomposition if used as directed. Under conditions giving incomplete combustion, hazardous gases produced may consist of carbon oxides (CO, CO2) and nitrogen oxides (NOx).

Conditions/Materials to avoid: Keep away from ignition sources. Incompatible with oxidizing and reducing agents. May corrode base metals.

Reactivity: Will react rapidly with acids and isocyanates

11. TOXICOLOGICAL INFORMATION

Toxicological information on components of this product are as follows:
4,4’Methylenedianiline(MDA) has an oral LD50 of 250-347 mg/kg (rat) and 264 mg/kg (mouse). This material is harmful if absorbed through the skin. Repeated dermal exposure to MDA may cause allergic skin reactions and liver damage. MDA caused liver tumors in mice and thyroid cancer in rats and mice during laboratory tests.

MPDA has an inhalation LC50 (4-hour aerosol) of 3.2 mg/liter in rats and oral LD50 of 650 mg/kg (rats). It is a moderate eye irritant, a slight skin irritant, and a skin sensitizer in tests with
laboratory animals. Repeated ingestion of MPDA caused slight kidney damage and liver degeneration in laboratory animals. Human studies have confirmed that overexposure to MDPAmay cause sensitization and allergic reactions. There are also published reports that some workers who have been exposed to MPDA over a 5-10 year period developed “allergic cystitis” with frequent, painful urination and inflammation of the liver. Individuals with pre-existing diseases of the skin, liver, kidneys or lungs may have increased susceptibility to MPDA.

**COMMENTS:** The chemical, physical, and toxicological properties have not been thoroughly investigated or tested to the best of our knowledge.

**12. ECOLOGICAL INFORMATION**

**ENVIRONMENTAL DATA:** No environmental data has been established or is available for this product.

**GENERAL COMMENTS:** Avoid contaminating waterways.

**13. DISPOSAL CONSIDERATIONS**


**Disposal information:** Dispose of in compliance with all applicable regulations. Can be incinerated, when in compliance with the local regulations. Empty remaining contents. Do not reuse empty containers. This product (in its fresh unused state) is not listed by generic name or trademark name in the U.S. EPA's RCRA regulations and does not possess any of the four identifying characteristics of hazardous waste (ignitability, corrosivity, reactivity or toxicity).

**14. TRANSPORT INFORMATION**

**DOT SHIPPING INFORMATION:**

**DOT SHIPPING NAME:** Poisonous Liquid, N.O.S. (Contains m-Phenylenediamine and 6.1, UN2810, PG Toxic, Liquids, Organic, N.O.S. 6.1, PGIII.

**IATA SHIPPING INFORMATION:**

**IATA SHIPPING NAME:** Toxic, Liquid, Organic, UN 2810 N.O.S. (Contains m-Phenylenediamine and 6.1, PGIII.

**REQUIRED TRANSPORT LABEL:** Keep Away from Food

**15. REGULATORY INFORMATION**
NOTICE:
Regulatory requirements are subject to change and may differ from one location to another. It is the buyer's responsibility to ensure that his activities comply with federal, state and local laws. The following information is made for the purpose of complying with numerous federal, state and local laws and regulations. THIS INFORMATION IS NOT MEANT TO BE ALL-INCLUSIVE. SELECTED REGULATIONS ARE PRESENTED.

All the components in this product are listed in the TSCA inventory.

SARA 313 INFORMATION:
This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. 4,4’ Methyleneedianiline (MDA)

CALIFORNIA PROPOSITION 65
4,4’ Methyleneedianiline (MDA)

NEW JERSEY RIGHT TO KNOW HAZARDOUS SUBSTANCE LIST
4,4’ Methyleneedianiline (MDA)m-Phenylenediamine

16. OTHER INFORMATION

HMIS RATING:
HEALTH:
 3
FLAMABILITY:
 1
REACTIVITY:
 0
PERSONAL PROTECTION GUIDELINES (Refer to the EXPOSURE CONTROLS): HMIS CODE J-Splash Goggles, Gloves,

HMIS™ - Hazardous Material Information System:
HMIS™ Ratings: 0-minimal hazard, 1- slight hazard, 2- moderate hazard, 3- serious hazard, 4- severe hazard.

MANUFACTURER DISCLAIMER: This MSDS to the best of our knowledge conforms to the requirements of OSHA 29 CFR 1910.1200, 91/155/EEC and summarizes the health and safety hazard information and general guidance on how to safety handle the material at the date of issue. Each user must review the MSDS in the context of how the product will be handled and
used in the workplace. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. Responsibility for the product sold is subject to our standard terms and conditions, a copy of which is available upon request. This company warrants only that its products meet the specifications stated in the sales contract. Typical properties, where stated, are to be considered as representative of current production and should not be treated as specifications. While all the information presented in this document is believed to be reliable and to represent the best available data on these products, NO GUARANTEE, WARRANTY, OR REPRESENTATION IS MADE, INTENDED, OR IMPLIED AS TO THE CORRECTNESS, OR SUFFICIENCY OF ANY INFORMATION, OR AS TO THE MERCHANTABILITY OR SUITABILITY OR FITNESS OF ANY CHEMICAL COMPOUNDS OR OTHER PRODUCTS FOR ANY PARTICULAR USE OR PURPOSE, OR THAT ANY CHEMICAL COMPOUNDS OR OTHER PRODUCTS OR THE USE THEREOF ARE NOT SUBJECT TO A CLAIM BY A THIRD PARTY FOR INFRINGEMENT OF ANY PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT. Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. Liability by this company for all claims, whether arising out of breach of warranty, negligence, strict liability, or otherwise, is limited to the purchase price of the material. Products may be toxic and require special precautions in handling. For all products listed, the user should obtain detailed information on toxicity, together with the proper shipping, handling and storage procedures, and comply with all applicable safety and environmental standards. Toxicity and risk characteristics of chemical compounds and other products may differ when used with other materials or in a manufacturing or other process. Those risk characteristics should be determined by the user and made known to handlers, processors, and end users.