

TCS 357M, Part B



THE HANSON GROUP, LLC
GOOD PEOPLE, GREAT SCIENCE

SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier: TCS 357M, Part B
Other means of identification: Mixture of amines, polyols and additives
Chemical use and restrictions: For use in formulating and coating
For use only by a professional formulator or coater
Manufacturer: Hanson Group LLC
900 McFarland 400 Boulevard
Alpharetta, GA 30004
770-495-9554
24 Hour emergency response CHEMTREC 800-424-9300

SECTION 2. HAZARD(S) IDENTIFICATION

Emergency Overview

Classification (1272/2008/CE):

Acute toxicity, Oral, Category 4 (H302)

Acute toxicity, Dermal, Category 4 (H312)

Eye irritation, Category 2 (H319)

Specific target organ toxicity (repeated exposure), Oral, Category 2 (H373)

Acute hazardous to the aquatic environment, Category 1 (H400)

Chronically hazardous to the aquatic environment, Category 1 (H410)

Classification (2006/121/EC, 1999/45/EC):

Harmful in contact with skin and if swallowed.

Irritating to eyes.

Harmful: danger of serious damage to health by prolonged exposure if swallowed.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Label elements

Hazardous components which must be listed on the label

Diethylmethylbenzenediamine

TCS 357M, Part B

Identification no.: 612-130-00-0



GHS Label elements, including precautionary statements

Signal word Danger

Hazard statements:

- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H319 Causes serious eye irritation.
- H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

- P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ eye protection/ face protection.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P314 Get medical advice/ attention if you feel unwell.

Labelling (2006/121/EC, 1999/45/EC):

Labelling in accordance with Annex I of directive 67/548/EEC and its amendments and adaptations:

Xn Harmful

N Dangerous for the environment

Diethylmethylbenzenediamine

EC-Label EC-No.: 270-877-4

R-phrase(s)

R21/22 Harmful in contact with skin and if swallowed.

R36 Irritating to eyes.

R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

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S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28 After contact with skin, wash immediately with plenty of soap and water.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S60 This material and its container must be disposed of as hazardous waste.

S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Hazards not otherwise classified (HNOC) or not covered by GHS –

Possible risk of absorption through the skin of Diethylmethylbenzene diamine.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS
*Trade Secret	*Trade Secret	*Trade Secret
*Trade Secret	*Trade Secret	*Trade Secret
*Trade Secret	*Trade Secret	*Trade Secret
*Trade Secret	*Trade Secret	*Trade Secret
*Trade Secret	*Trade Secret	*Trade Secret
*Trade Secret	*Trade Secret	*Trade Secret

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

Precautions: First aid providers should avoid direct contact with this chemical. Wear protective equipment as necessary.

Eye contact: Flush immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.

Skin contact: REMOVE FROM SKIN IMMEDIATELY. Take off all contaminated clothing immediately. Remove adhering matter immediately. Use waterless hand cleaner. Then wash with lots of water and soap.

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After inhalation: Remove the victim into fresh air. Symptoms include irritation of the respiratory tract or asthmatic reaction.

After ingestion: Do not induce vomiting without medical advice.

Medical Attention: Consult a physician if any of these events occur.

General: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Carbon dioxide (CO₂), Foam, extinguishing powder, in cases of larger fires, water spray should be used.

Unsuitable extinguishing media: High volume water jet

Special hazards arising from the substance or mixture:

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes. Cool endangered vessels and containers with sprayed water. Heating raises pressure with consequent risk of bursting and explosion.

Advice for fire-fighters:

During fire-fighting respirator with independent air-supply and airtight garment is required. Make provision for product and fire-fighting water to be retained. Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

Special protective equipment: Wear protective clothing. In case of respirable dust and/or fumes, use self-contained breathing apparatus.

SECTION 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.

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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.

SECTION 7. HANDLING AND STORAGE

GENERAL PROCEDURES: Store product in original containers. Store container in a secure cool, dry, well-ventilated area. Opened containers should be blanketed with nitrogen gas at atmospheric pressure

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 cool, well-ventilated area. Store in original container. Keep away from heat and sources of ignition. Keep away from moisture.

INCOMPATIBLE MATERIALS: Will react with isocyanates and acids.

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

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION

Control parameters

No information on Exposure Limit Values necessary according to EC directive 2006/121/EG
For technical protective measures to limit exposure see also Chapter 7 "Handling and storage".

Derived No Effect Level (DNEL) or Derived Minimal Effect Level (DMEL):

Diethylmethylbenzenediamine

Worker (short-term) :

DNEL :

Not relevant

Worker (long-term) :

DNEL Dermal - systemic effects: 1 mg/kg body weight/day

Most sensitive endpoint: Repeated dose toxicity

DNEL Inhalation - systemic effects: 0,13 mg/m³ air

Most sensitive endpoint: Repeated dose toxicity

DNEL Dermal - local effects:

Not relevant

DNEL Inhalation - local effects:

Not relevant

General population (short-term) :

DNEL :

Not relevant

Predicted No Effect Concentration (PNEC):

Diethylmethylbenzenediamine

Freshwater: 0,0005 mg/l

Marine water: 0,00005 mg/l

Fresh water sediment: 0,029 mg/kg dry weight

Marine sediment: 0,0029 mg/kg dry weight

Soil: 0,0056 mg/kg dry weight

STP (sewage-treatment plant): 17 mg/l

Oral: 2 mg/kg food

Exposure controls

Respiratory protection:

Put on full-mask respirator with filter type ABEK. Unless the product is entirely enclosed, do not handle it until you have studied the respiratory precautions issued by the appropriate authority or accident prevention association.

Eye protection:

Wear eye/face protection.

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Skin and body protection:

Wear suitable protective clothing.

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:	liquid
Color:	clear
Odor:	amine-like
Odor	Threshold: not established
pH:	9.7
Freezing temperature:	-26,1 °C DIN 51556
Boiling point/boiling range	: 308 °C DIN 53171
Flash point:	> 140 °C DIN 51758
Evaporation rate:	not established
Flammability (solid, gas):	not established
Burning number:	not applicable
Vapor pressure:	10 - 11 hPa at 166 °C EG A4
Vapor density:	not established
Density:	1,022 g/cm ³ at 20 °C DIN 51757
Miscibility with water:	immiscible at 15 °C
Water solubility:	slightly soluble
Surface tension:	not established
Partition coefficient (n-octanol/water):	not established
Autoignition temperature:	not applicable
Ignition temperature:	430 °C DIN 51794
Decomposition temperature:	not established
Viscosity, dynamic:	185 mPa.s at 25 °C DIN 53019
Explosive properties:	not established
Dust explosion class:	not applicable
Oxidizing properties:	not established

Other information: The indicated values do not necessarily correspond to the product specification. Please refer to the technical information sheet for specification data. These data do not represent technical or sales specifications.

SECTION 10. STABILITY AND REACTIVITY

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Chemical stability: No decomposition below initial boiling point.

Possibility of hazardous reactions: Note exothermic reaction with isocyanates.

Hazardous decomposition products: No hazardous decomposition products when stored and handled correctly.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity, oral:

Diethylmethylbenzenediamine
LD50 rat, male/female: ca. 738 mg/kg
Method: OECD Test Guideline 401

Acute toxicity, dermal:

Diethylmethylbenzenediamine
LD50 rat, male/female: > 2.000 mg/kg
Method: OECD Test Guideline 402
Harmful in contact with skin (classification 67/548/EWG / and 1272/2008/EG).

Acute toxicity, inhalation:

Diethylmethylbenzenediamine
no data available

Primary skin irritation:

Diethylmethylbenzenediamine
Species: rabbit
Exposure duration: 4 h
Result: non-irritant
Classification: No skin irritation
Method: OECD Test Guideline 404

Primary mucosae irritation:

Diethylmethylbenzenediamine
Species: rabbit
Result: irritating
Classification: Causes serious eye irritation.

Sensitisation:

Diethylmethylbenzenediamine
Skin sensitisation:
Species: guinea pig

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Result: No sensitizing effect known.

Respiratory sensitization

No data available.

Subacute, subchronic and prolonged toxicity:

Diethylmethylbenzenediamine

NOAEL: 3 mg/kg

LOAEL (Lowest observable adverse effect level): 8 mg/kg

Application Route: Oral

Species: rat, male/female

Dose Levels: 0 - 50 - 125 - 320 ppm

Exposure duration: 90 d

Frequency of treatment: daily

Target Organs: Pancreas

Method: OECD Test Guideline 408

NOAEL: 0,4 mg/kg

LOAEL (Lowest observable adverse effect level): 3,2 mg/kg

Application Route: Oral

Species: rat, male/female

Dose Levels: 0 - 10 - 35 - 70 ppm

Exposure duration: 2 a

Frequency of treatment: daily

Target Organs: Pancreas

Method: OECD Test Guideline 453

NOAEL: 100 mg/kg

Application Route: Dermal

Species: rabbit, male/female

Dose Levels: 0 - 1 - 10 - 100 mg/kg

Exposure duration: 21 d

Frequency of treatment: 6 hours a day, 5 days a week

Carcinogenicity:

Diethylmethylbenzenediamine

Species: rat, male/female

Application Route: Oral

Dose Levels: 0 - 40 - 120 ppm

Exposure duration: 2 a

Frequency of treatment: daily

Result:

negative

Species: rat, male/female

Application Route: Oral

Dose Levels: 0 - 10 - 35 - 70 ppm

Exposure duration: 2 a

Frequency of treatment: daily

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Method: OECD Test Guideline 451

Result:

The study is insufficient for a clear evaluation.

On the basis of these data labeling as carcinogenic is therefore not required.

Reproductive toxicity/Fertility:

Diethylmethylbenzenediamine

Available data show no indications for reproductive toxicity.

Reproductive toxicity/Teratogenicity:

Diethylmethylbenzenediamine

No data available.

Genotoxicity in vitro:

Diethylmethylbenzenediamine

Test type: Salmonella/microsome test (Ames test)

Metabolic activation: with

Result: positive

Test type: Salmonella/microsome test (Ames test)

Metabolic activation: without

Result: No indication of mutagenic effects.

Test type: In vitro mammalian cell gene mutation test

Test system: Mouse lymphoma cells

Metabolic activation: with

Result: positive

Method: OECD Test Guideline 476

Test type: In vitro mammalian cell gene mutation test

Test system: Mouse lymphoma cells

Metabolic activation: without

Result: negative

Method: OECD Test Guideline 476

Test type: Chromosome aberration test in vitro

Test system: Human lymphocytes

Metabolic activation: with/without

Result: Ambiguous.

Method: OECD Test Guideline 473

Genotoxicity in vivo:

Diethylmethylbenzenediamine

Test type: Micronucleus test

Species: mouse, male/female

Application Route: Oral

Dose: 0 - 125 - 250 - 500 mg/kg

Result: negative

Method: OECD Test Guideline 474

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STOT evaluation – one-time exposure:

Diethylmethylbenzenediamine

Based on available data, the classification criteria are not met.

STOT evaluation – repeated exposure:

Diethylmethylbenzenediamine

Target Organs: Pancreas

May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity:

Diethylmethylbenzenediamine

Based on available data, the classification criteria are not met.

CMR Assessment:

Diethylmethylbenzenediamine

Carcinogenicity: Based on available data, the classification criteria are not met.

Mutagenicity: The mutagenic effect of this substance was investigated in various in vitro tests on bacteria and mammal cell cultures. The result were inconsistent. In vivo tests did not show mutagenic effects Based on available data, the classification criteria are not met.

Teratogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity/Fertility: Based on available data, the classification criteria are not met.

Toxicology Assessment:

Diethylmethylbenzenediamine

Acute effects: Harmful if swallowed. Causes serious eye irritation.

Sensitization: Based on available data, the classification criteria are not met.

Additional information:

Diethylmethylbenzenediamine

Special properties/effects: Risk of cutaneous absorption.

SECTION 12. ECOLOGICAL INFORMATION

Do not allow to escape into waterways, wastewater or soil.

Toxicity

Acute Fish toxicity:

Diethylmethylbenzenediamine

LC50 200 mg/l

Species: Leuciscus idus (Golden orfe)

Exposure duration: 48 h

Method: DIN 38412

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Acute toxicity for daphnia:

Diethylmethylbenzenediamine

EC50 0,5 mg/l

Test type: Immobilization

Species: Daphnia magna (Water flea)

Exposure duration: 48 h

Method: Directive 67/548/EEC, Annex V, C.2.

Acute toxicity for algae:

Diethylmethylbenzenediamine

ErC50 104 mg/l

Test type: Growth inhibition

Species: Desmodesmus subspicatus (Green algae)

Exposure duration: 72 h

Method: OECD Test Guideline 201

Acute bacterial toxicity:

Diethylmethylbenzenediamine

EC50 > 170 mg/l

Test type: Cell multiplication inhibition test

Species: Pseudomonas putida

Exposure duration: 24 h

Method: DIN 38412

Ecotoxicology Assessment:

Diethylmethylbenzenediamine

Acute aquatic toxicity: Very toxic to aquatic organisms.

Chronic aquatic toxicity: May cause long-term adverse effects in the aquatic environment.

Impact on Sewage Treatment: Because of the low bacterial toxicity, there is no risk of an adverse effect on the performance of biological waste water treatment plants.

Persistence and degradability

Biodegradability:

Diethylmethylbenzenediamine

Test type: Closed Bottle test

Biodegradation: < 1 %, 28 d, i.e. not readily degradable

Method: Directive 67/548/EEC Annex V, C.4.E.

Stability in water:

Diethylmethylbenzenediamine

Test type: Hydrolysis

not applicable

Photodegradation:

Diethylmethylbenzenediamine

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Test type: Phototransformation in air

Temperature: 25 °C

sensitizer: OH-radicals

Concentration sensibilisator: 1.500.000 1/cm³

Half-life indirect photolysis: 1,48 h

Method: SRC - AOP (calculation)

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Volatility (Henry's Law constant):

Diethylmethylbenzenediamine

0,000266 Pa*m³/mol at 25 °C

Method: calculated

The substance has to be scored as non-volatile from water.

Bioaccumulative potential

Bioaccumulation:

Diethylmethylbenzenediamine

Bioconcentration factor (BCF): 2,75

Method: (calculated)

An accumulation in aquatic organisms is not to be expected.

Partition coefficient (n-octanol/water):

Diethylmethylbenzenediamine

log Pow: 1,16

Mobility in soil

Distribution among environmental compartments:

Diethylmethylbenzenediamine

Adsorption/Soil

K_{oc} value: 551

Method: calculated

Moderately mobile in soils

Environmental distribution:

Diethylmethylbenzenediamine

Method: (calculated)

The product will be dispersed amongst the various environmental compartments (soil/ water/ air).

Results of PBT and vPvB assessment

Diethylmethylbenzenediamine

This substance does not meet the criteria for classification as PBT or vPvB.

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SECTION 13. DISPOSAL CONSIDERATIONS

Dispose in accordance with applicable international, national and local laws, ordinances and statutes.

For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

Waste treatment methods

After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

None disposal into waste water.

SECTION 14. TRANSPORTATION INFORMATION

ADR/RID

UN Number : 3082

Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(Diethylmethylbenzenediamine)

Packaging group : III

Hazard identification No : 90

hazard label : 9

Environmentally hazardous : yes

Limited quantity regulations applicable in accordance with chapter 3.4 ADR/RID in compliance with threshold value

ADN

UN Number : 3082

Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(Diethylmethylbenzenediamine)

Packaging group : III

Hazard identification No : 90

hazard label : 9

Environmentally hazardous : yes

This classification data does not apply to transportation by tanker. If required, additional information can be requested from the manufacturer.

IATA

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UN Number : 3082

Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(Diethylmethylbenzenediamine)

Class : 9

Packaging group : III

hazard label : 9

Packing instruction (cargo aircraft)

: 964

Packing instruction

(passenger aircraft)

: 964

IMDG

UN Number : 3082

Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(Diethylmethylbenzenediamine)

Class : 9

Packaging group : III

IMDG-Labels : 9

Marine pollutant : yes

Special precautions for user : Environmentally hazardous substance. Keep dry.

Keep separated from foodstuffs.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Subject to EU Directive 96/82 EC (Seveso II Directive):

Annex I No. 9a

TA Luft List (Germany):

Type: Organic Substances

Fraction of other substances: 100 %

Water contaminating class (Germany): 2 water endangering

(pursuant to Annex 2 of the Administrative Regulation on the Classification of Substances Hazardous to Waters into Water Hazard Classes (VwVwS))

Any existing national regulations on the handling of irritant or corrosive substances must be observed.

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US. Toxic Substances Control Act:

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

Date written: July 31, 2015

Revision Information: No revisions

MANUFACTURER DISCLAIMER: This SDS 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 safely handle the material at the date of issue. Each user must review the SDS 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.