1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: CONATHANE® EN-1554 Part B Black Curative
Synonyms: None
Chemical Family: Mixture
Molecular Formula: Mixture
Molecular Weight: Mixture

CYTEC INDUSTRIES INC., FIVE GARRET MOUNTAIN PLAZA, WOODLAND PARK, NEW JERSEY 07424, USA
For Product Information call 1-800/652-6013. Outside the USA and Canada call 1-973/357-3193.

EMERGENCY PHONE (24 hours/day) - For emergency involving spill, leak, fire, exposure or accident call:
Asia Pacific:
  Australia - +61-3-9663-2130 or 1800-033-111
  China (PRC) - +86 10 5100 3039 (Carechem24 China)
  New Guinea - +61-3-9663-2130
  New Zealand - +61-3-9663-2130 or 0800-734-607
  All Others - +65 3158 1074 (Carechem24 Singapore)
Canada: +1-905-356-8310 (Cytec Welland, Canada plant)
Europe/Africa/Middle East (Carechem24 UK):
  Europe, Middle East, Africa, Israel - +44 (0) 1235 239 670
  Middle East, Africa (Arabic speaking countries) - +44 (0) 1235 239 671
Latin America:
  Brazil - 0800 0111 767 (SOS Cotec)
  Chile - +56-2-247-3600 (CITUC QUIMICO)
  All Others - +52-376-73 74122 (Cytec Atequiza, Mexico plant)
USA: +1-703-527-3887 or 1-800-424-9300 (CHEMTREC #CCN6083)

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2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE AND ODOR:
Color: black
Appearance: viscous liquid
Odor: characteristic

STATEMENTS OF HAZARD:
WARNING! CAUSES EYE AND SKIN IRRITATION

CHRONIC HAZARD WARNING:
CONTAINS MATERIAL WHICH CAUSED CANCER IN LABORATORY ANIMAL TESTS
Risk of cancer depends on duration and level of exposure

POTENTIAL HEALTH EFFECTS
EFFECTS OF EXPOSURE:
The estimated acute oral (rat) LD50, acute dermal (rabbit) LD50 and 4-hour inhalation (rat) LC50 values for this material are 1660 mg/kg, >2000 mg/kg and >5 mg/l, respectively. Direct contact with this material may cause moderate eye and skin irritation. Refer to Section 11 for toxicology information on the regulated components of this product.

3. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA REGULATED COMPONENTS

<table>
<thead>
<tr>
<th>Component / CAS No.</th>
<th>%</th>
<th>Carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4'-Methylenebis(2-chloroaniline)</td>
<td>10-30</td>
<td>IARC 1</td>
</tr>
<tr>
<td>101-14-4</td>
<td></td>
<td>NTP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH A2</td>
</tr>
<tr>
<td>Carbon black</td>
<td>&lt;1</td>
<td>IARC 2B</td>
</tr>
<tr>
<td>1333-86-4</td>
<td></td>
<td>ACGIH A3</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye Contact:
Rinse immediately with plenty of water for at least 15 minutes. Obtain medical advice if there are persistent symptoms.

Skin Contact:
Remove contaminated clothing and shoes without delay. Wash immediately with plenty of water. Do not reuse contaminated clothing without laundering. Get medical attention if pain or irritation persists after washing or if signs and symptoms of overexposure appear.

Ingestion:
If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Inhalation:
Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:
Use water spray, carbon dioxide or dry chemical.

Protective Equipment:
Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See MSDS Section 8 (Exposure Controls/Personal Protection).

Special Hazards:
Keep containers cool by spraying with water if exposed to fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Where exposure level is known, wear approved respirator suitable for level of exposure. Where exposure level is not known, wear approved, positive pressure, self-contained respirator. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.
Methods For Cleaning Up:
Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

Environmental Precautions:
Use appropriate containment to avoid environmental contamination.

7. HANDLING AND STORAGE

HANDLING
Precautionary Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Special Handling Statements: None

STORAGE
None

Storage Temperature: Room temperature
Reason: Quality.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:
Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure.

Respiratory Protection:
Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure.

Eye Protection:
Wear eye/face protection such as chemical splash proof goggles or face shield. Eyewash equipment and safety shower should be provided in areas of potential exposure.

Skin Protection:
Avoid skin contact. Wear impermeable gloves and suitable protective clothing. Since this product is absorbed through the skin, care must be taken to prevent skin contact and contamination of clothing.

Additional Advice:
Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. It is recommended that a shower be taken after completion of workshift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment. Work clothing and shoes should not be taken home.

Exposure Limit(s)

<table>
<thead>
<tr>
<th>Compound</th>
<th>OSHA (PEL)</th>
<th>ACGIH (TLV)</th>
<th>Other Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>101-14-4</td>
<td>Not established</td>
<td>0.01 ppm (TWA)</td>
<td>Not established</td>
</tr>
<tr>
<td>1333-86-4 Carbon black</td>
<td>3.5 mg/m³ (TWA)</td>
<td>Not established</td>
<td></td>
</tr>
</tbody>
</table>
9. PHYSICAL AND CHEMICAL PROPERTIES

Color: black
Appearance: viscous liquid
Odor: characteristic
Boiling Point: Not available
Melting Point: Not available
Vapor Pressure: Not available
Specific Gravity/Density: 1.09
Vapor Density: Not available
Percent Volatile (% by wt.): Not available
pH: Not available
Saturation In Air (% By Vol.): Not available
Evaporation Rate: Negligible
Solubility In Water: Not available
Volatile Organic Content: Not available
Flash Point: >93 °C 200 °F  Closed Cup
Flammable Limits (% By Vol.): Not available
Autoignition Temperature: Not available
Decomposition Temperature: Not available
Partition coefficient (n-octanol/water): Not available
Odor Threshold: Not available

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions To Avoid: None known

Polymerization: May occur

Conditions To Avoid: Slow polymerization upon contact with polyurethane prepolymers.

Materials To Avoid: Strong acids or bases and also oxidizing agents.

Hazardous Decomposition Products:
- Carbon dioxide
- Carbon monoxide (CO)
- oxides of nitrogen
- toluene diisocyanate

11. TOXICOLOGICAL INFORMATION

Toxicological information for the product is found under Section 2. HAZARDS IDENTIFICATION.
Toxicological information on the regulated components of this product is as follows:

101-14-4  4,4’-Methylenebis(2-chloroaniline)
ACGIH (TLV): 3 mg/m³ inhalable fraction (TWA)
Other Value: Not established
11. TOXICOLOGICAL INFORMATION
4,4’-Methylenebis-(2-chloroaniline) has acute oral (rat) and dermal (rabbit) LD50 values of 1140 mg/kg and >5000 mg/kg, respectively. Eye and skin exposure has resulted in inflammation and irritation. This material did not produce allergic contact dermatitis in guinea pigs. 4,4’-Methylenebis-(2-chloroaniline) is mutagenic/henotoxic in a variety of in vitro and in vivo assays. 4,4’-Methylenebis-(2-chloroaniline) was carcinogenic in mice, rats and dogs. Mice fed this material at 0.1% and 0.2% of their diets were observed with vascular tumors in the males at both doses and in the females at the high dose. Liver tumors were observed in both groups of female mice. In another study, liver tumors were observed in female mice but not male mice fed 4,4’-Methylenebis-(2-chloroaniline) at 1000 mg/kg for 18 months. In rats, lung tumors were observed in 6% of males receiving 125 ppm of 4,4’-Methylenebis-(2-chloroaniline) and in 70% of males receiving 1000 ppm of 4,4’-Methylenebis-(2-chloroaniline) orally. Liver tumors were seen at oral doses of 200 and 1000 ppm. Other studies have reported tumors in the mammary glands, thoraxes, skin and appendages of rats orally exposed to 4,4’-Methylenebis-(2-chloroaniline) at high levels. In dogs, bladder tumors were observed at a level of 100 mg/kg/day. Dermal exposure to rats at a total dose of 25 g/kg resulted in the same type of tumors as seen in the oral studies. Short term overexposure in humans by inhalation has resulted in the production of methemoglobin from hemoglobin. Hematuria has been reported in workers exposed to 4,4’-Methylenebis-(2-chloroaniline): The conditions were mild and cleared within a week. Thirty-one men exposed to 4,4’-Methylenebis-(2-chloroaniline) for 6 months to 16 years were observed for carcinogenicity: No tumors were attributed to 4,4’-Methylenebis-(2-chloroaniline). While epidemiological proof of human exposure is lacking, there is evidence that human tissue could metabolize 4,4’-Methylenebis-(2-chloroaniline) to mutagenic products that bind to DNA.

Carbon black has acute oral (rat) and acute dermal (rabbit) LD50 values of >8000 mg/kg and >3000 mg/kg, respectively. The acute 4-hr inhalation LC50 is 67.5 mg/L. Acute overexposure to carbon black dust may cause slight respiratory irritation. Chronic inhalation of carbon black caused lung cancer in rats, but not in mice. Human epidemiology studies have not demonstrated an association to cancer. Carbon black is negative in the Ames mutagenicity tests. The International Agency for Research on Cancer has evaluated carbon black and classified it as a possible human carcinogen (Group 2B) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. Literature reports that Carbon black has shown positive in vivo mutagenic effects in the lung cells of laboratory animals.

California Proposition 65 Warning (applicable in California only) - This product contains (a) chemical(s) known to the State of California to cause cancer.

12. ECOLOGICAL INFORMATION
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The ecological assessment for this material is based on an evaluation of its components.

13. DISPOSAL CONSIDERATIONS
13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA `listed hazardous waste` or has any of the four RCRA `hazardous waste characteristics.` Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA `listed hazardous waste`; information contained in Section 15 of this MSDS is not intended to indicate if the product is a `listed hazardous waste.`

RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 9 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 3 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. The Company encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. The Company recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. The Company has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

US DOT

Dangerous Goods? X
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
Hazard Class: 9
Packing Group: III
UN/ID Number: UN3082
Transport Label Required: Miscellaneous
Marine Pollutant
Technical Name (N.O.S.): Contains 4,4`-Methylenebis-[2-chloroaniline]

Component / CAS No. Hazardous Substances / Reportable Quantity of Product (lbs)
4,4`-Methylenebis(2-chloroaniline) 33

Comments: Marine Pollutants - DOT requirements specific to Marine Pollutants do not apply to non-bulk packagings transported by motor vehicles, rail cars or aircraft. Hazardous Substances/Reportable Quantities - DOT requirements specific to Hazardous Substances only apply if the quantity in one package equals or exceeds the product reportable quantity.

TRANSPORT CANADA

Dangerous Goods? X
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
Hazard Class: 9
Packing Group: III
UN Number: UN3082
Transport Label Required: Miscellaneous
Marine Pollutant
Technical Name (N.O.S.): Contains 4,4`-Methylenebis-[2-chloroaniline]
ICAO / IATA

Dangerous Goods? X
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
Hazard Class: 9
Packing Group: III
UN Number: UN3082
Transport Label Required: Miscellaneous
Technical Name (N.O.S.): Contains 4,4'-Methylenebis-[2-chloroaniline]

IMO

Dangerous Goods? X
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
Hazard Class: 9
UN Number: UN3082
Packing Group: III
Transport Label Required: Miscellaneous
Marine Pollutant
Technical Name (N.O.S.): Contains 4,4'-Methylenebis-[2-chloroaniline]

15. REGULATORY INFORMATION

Inventory Information

United States (USA): All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

Canada: All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

Australia: One or more components of this product have NOT yet been included in the Australian Inventory of Chemical Substances (AICS) or assessed by NICNAS.

China: One or more components of this product are NOT included on the Chinese (IECSC) inventory.

Japan: One or more components of this product are NOT included on the Japanese (ENCS) inventory.

Korea: One or more components of this product are NOT included on the Korean (ECL) inventory.

Philippines: One or more components of this product are NOT included on the Philippine (PICCS) inventory.

OTHER ENVIRONMENTAL INFORMATION
The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

<table>
<thead>
<tr>
<th>Component / CAS No.</th>
<th>%</th>
<th>TPQ (lbs)</th>
<th>RQ (lbs)</th>
<th>S313</th>
<th>TSCA 12B</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4'-Methylenebis(2-chloroaniline)</td>
<td>10 - 30</td>
<td>None</td>
<td>10</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>101-14-4</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

PRODUCT HAZARD CLASSIFICATION UNDER SECTION 311 OF SARA

- Acute
- Chronic
16. OTHER INFORMATION

NFPA Hazard Rating (National Fire Protection Association)

Health: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

Fire: 1 - Materials that must be preheated before ignition can occur.

Instability: 0 - Materials that in themselves are normally stable, even under fire exposure conditions.

Reasons For Issue: New Format

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