Section 1. Identification

GHS Product Identifier	:	Delcrete/Delpatch DSB 1494 B NM
CAS No.	:	Proprietary
Chemical Family	:	Polyol/Diamine blend.
Product Use	:	For industrial or professional use only. This material is used as a curing agent for the production of cast polyurethane.
Supplier	:	The D.S. Brown Company 300 East Cherry Street North Baltimore, Ohio 45872 419-257-3561
In Case of Emergency	:	Chemtrec 1-800-424-9300 International 01-703-741-5500

Section 2. Hazards Identification

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS Classification in Accordance with 29CFR 1910 (OSHA HCS) : Health, Carcinogenicity, 1 B.
Health, Germ cell mutagenicity, 2.

GHS Label Elements, Including Precautionary Statements

GHS Signal Word : **DANGER**

GHS Hazard Pictograms :

GHS Label Elements, Including Precautionary Statements

GHS Hazard Statements :
H350 May cause cancer.
H341 Suspected of causing genetic defects.

GHS Precautionary Statements :
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves, clothing and eye protection.
P308+313 **If exposed or concerned:** Get medical advice/attention.
P405 Store locked up.
P501 Dispose of container in accordance with local or state regulation.

Section 3. Composition/Information on Ingredients

Chemical Name	Common Name and Synonyms	CAS No.	%
4,4'-Methylene bis(2-chloroaniline) (MOCA)		101-14-4	30-34
1,4 Butanediol		110-63-4	2-3
Carbon Black		1333-86-4	<3

Section 4. First Aid Measures

Inhalation : Move to an area free from the risk of further exposure. If not breathing, or breathing is difficult, obtain medical attention.

Skin Contact : Flush skin with plenty of water for at least 5 minutes while removing contaminated clothing and shoes. Wash thoroughly with soap and water. Get medical attention if irritation or rash develops on affected area. Wash clothing before reuse.

Eye Contact : Rinse with water immediately for 5 minutes. If irritation occurs, seek medical attention.

Ingestion : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Most Important Symptoms/ Effects : See Section 11

Section 5. Fire-Fighting Measures

EXTINGUISHING MEDIA

Suitable : Carbon dioxide, dry chemical, or foam.

Inappropriate Media : Water spray or water discharge.

Special Hazards Arising from the Substance or Mixture : Toxic and/or irritating fumes can be produced during burning of this material. Decomposition products may be hazardous (see Section 10 for details on decomposition products).

Advice for Firefighters : Firefighters should wear self-contained breathing apparatus and full protective clothing. Downwind personnel should be evacuated. Do not reseal contaminated containers as pressure buildup may rupture them.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures : Evacuate personnel. Wear suitable PPE as described in Section 8.

Environmental Precautions : Prevent migration into groundwater, sewers, or streams. Land spills may require excavation of contaminated soil. Material should not be released into the environment.

Methods for Containment and Cleaning Up : Recover the spilled liquid with an invactive absorbent (e.g. dry sand) and put into chemical waste container. Prevent liquid from entering sewers, watercourses, etc.

Section 7. Handling and Storage

HANDLING PRECAUTIONS

Precautions for Safe Handling : Use in a well ventilated area, using good industrial hygiene practices. Avoid contact with eyes, skin, and clothing, and wear proper PPE (see Section 8).

STORAGE REQUIREMENTS

Conditions for Safe Storage, Including Any Incompatibilities : Store material at ambient temperature and pressure. Keep away from sources of direct heat and moisture. Keep container tightly closed when not in use. Containers can retain product residue after being emptied. Always obey hazards warnings and handle empty containers as though they were full.

Material is stable under normal conditions.

Section 8. Exposure Controls/Personal Protection

Engineering Controls : Provide local exhaust ventilation to keep airborne concentrations below the recommended occupational exposure limits.

Personal Protective Equipment : **HMIS PP, C | Safety Glasses, Gloves, Apron**
4,4'-Methylene bis(2-chloroaniline) (MOCA) (101-14-4) [100%]

Personal protective equipment
Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:Dermatril (KCL 740 / Aldrich Z677272, Size M) Splash contact data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is

Section 8. Exposure Controls/Personal Protection *cont'd.*

EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection: Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection: Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Chemical Name	Limit Type	Value	Comments
4,4'-Methylene bis(2-chloroaniline)	PEL-TWA	none	OSHA Guildeline
4,4'-Methylene bis(2-chloroaniline)	TLV-TWA	0.01 ppm	ACGIH Guideline
4,4'-Methylene bis(2-chloroaniline) *skin notation/BEI	REL-TWA	0.003 mg/m3	NIOSH Guideline
Carbon black	PEL-TWA	3.5 mg/m3	OSHA Guideline
Carbon black	TLV-TWA	3.0 mg/m3	ACGIH Guideline
Carbon black	REL-TWA	3.5 mg/m3	NIOSH Guideline
		*0.1 mg/m3 (in the presence of PAHs, 10hr. TWA)	

1,4-Butanediol:
ACHGIH TLV: None
OSHA PEL: None

Section 9. Physical and Chemical Properties

Appearance	:	Black
Physical State	:	Liquid
Odor	:	No data available.
Odor Threshold	:	N/A
Particle Size	:	N/A
Spec Gravity/Density	:	1.08 (25°C/77°F)
Viscosity:	:	2200cP (25°C/77°F)
Boiling Point	:	N/A
Partition Coefficient	:	No data available.
Vapor Pressure	:	No data available.
pH	:	No data available.
Evaporation Rate	:	N/A
Decomp Temp	:	No data available.
Solubility	:	No data available.
Freezing/Melting Pt.	:	N/A
Flash Point	:	>225°C TCC
Vapor Density	:	No data available.
Auto-Ignition Temp	:	No data available.
UFL/LFL	:	No data available.

Section 10. Stability and Reactivity

Reactivity	:	Reacts with mineral acid to form a salt.
Chemical Stability	:	Stable under normal conditions of use/storage.
Conditions to Avoid	:	Exposure to temperatures above 200°C may liberate 2-Chloroaniline. Avoid contact with incompatible materials.
Materials to Avoid	:	Oxidizing agents, reducing agents and strong bases.
Hazardous Decomposition	:	May liberate hydrogen chloride, phosgene, carbon oxides, and oxides of nitrogen.
Hazardous Polymerization	:	Hazardous Polymerization will not occur.

Section 11. Toxicological Information

ROUTES OF EXPOSURE AND HEALTH EFFECTS/SYMPTOMS

Inhalation : May cause respiratory irritation.

Skin Contact : May cause skin irritation. A component may be absorbed thru the skin in harmful amounts.

Eye Contact : May cause eye irritation.

Ingestion : May be harmful if swallowed. Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Immediate and Delayed Health Effects : Irritation, Exposure may cause damage to organs (lungs, liver, kidney, hematologic systems).

Symptoms : 4,4'-Methylene bis(2-chloroaniline) (MOCA)-(101-14-4)
hematuria (blood in the urine), cyanosis, nausea, methemoglobinemia, kidney irritation

LD50s and LC50s : **4,4'-Methylene bis(2-chloroaniline) (MOCA)-(101-14-4)**
LD50 (Oral): 2,000 mg/kg (rat)
LD50 (Dermal): >2,000 mg/kg (rabbit)

Carbon black (1333-86-4)
LD50 (Oral): >8,000 mg/kg (rat)
(OECD Test Guideline 401)

1,4-Butanediol (110-63-4)
LD50 (Oral): 1,500 mg/kg (rat)
LD50 (Dermal): >2,000 mg/kg (rat)
LC50 (Inhalation): >5.1 mg/l (rat/4 hr/dust/mist)

Carcinogenicity : **4,4'-Methylene bis(2-chloroaniline) (MOCA)-(101-14-4)**
NTP: Reasonably anticipated to be a human carcinogen
IARC: Group 1
OSHA: None

Carbon black (1333-86-4)
IARC: Group 2B: Possibly carcinogenic to humans

Germ cell mutagenicity : **4,4-Methylene bis(2-choloraniline) (MOCA)-(101-14-4)**
Laboratory experiments have shown mutagenic effects

Section 12. Ecological Information

Toxicity : No data available on product.

Data for : 4,4'-Methylene bis(2-chloroaniline) (MOCA) (101-14-4)
Endpoint/Species/Duration/Result
LC50/Fish/96 hours/0.606mg/L
EC50/Daphnia/48 hours/0.92mg/L
ErC50/Algae/72 hours/>0.85mg/L

Persistence and Degradability : Product does not rapidly biodegrade.

Bioaccumulative Potential : No data available on product.

Mobility in Soil : No data available on product.

Section 13. Disposal Considerations

Waste Treatments Methods : Follow all applicable local, state, and federal disposal regulations.

Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

Section 14. Transport Information

DOT (US) : RQ, UN3082, Environmentally Hazardous Substance, Liquid, N.O.S.
(4,4'-Methylene bis(2-chloroaniline), 9, III
Reportable Quanitity (RQ): 10 lbs

IMDG : UN3082, Environmentally Hazardous Substance, Liquid, N.O.S.
(4,4'-Methylene bis(2-chloroaniline), 9, III
Marine Pollutant

IATA : UN3082, Environmentally Hazardous Substance, Liquid, N.O.S.
(4,4'-Methylene bis(2-chloroaniline), 9, III
Marine Pollutant

Section 15. Regulatory Information

COMPONENT (CAS#) [%] - CODES

RQ(10LBS), 4,4'-Methylene bis(2-chloroaniline) (MOCA) (101-14-4) [30-34%] CERCLA, HAP, MASS, NJHS, NRC, OSHAWAC, PA, PROP65, SARA313, TOXICRCRA, TSCA, TXAIR, TXHWL

1,4-Butanediol (110-63-4) [2-3%] HAP, TSCA, TXAIR

Carbon black (1333-86-4) [<3%] MASS, OSHAWAC, PA, TSCA, TXAIR

Section 15. Regulatory Information *cont'd.*

REGULATORY CODE DESCRIPTIONS

RQ = Reportable Quantity

CERCLA = Superfund Clean Up Substance

HAP= Hazardous Air Pollutants

MASS = MA Massachusetts Hazardous Substances

NJHS = NJ Right-to-Know Hazardous Substances

OSHAWAC = OSHA Workplace Air Comtaminants

PA = PA Right-to-Know List of Hazardous Substances

PROP65 = CA Prop 65

SARA313 = SARA 313 Title III Toxic Chemicals

TOXICRCRA = RCRA Toxic Hazardous Wastes (U-List)

TXCA = Toxic Substances Control Act

TXAIR = TX Air Contaminants with Health Effects Screening Level

TXHWL = TX Hazardous Waste List

CHEMICAL INVENTORY STATUS

Country / Inventory / Status

United States / TSCA / On the inventory.

Canada / DSL / On the inventory.

Section 16. Other Information

HMIS III : Health = 1 (Chronic)
Fire = 1
Physical Hazard = 0

HMIS PPE : C-Safety Glasses, Gloves, Apron

Abbreviation Key : PEL - permissible exposure limit
TWA - time weighted average
TLV - threshold limit value
STEL - short term exposure limit
IDLH - immediately dangerous to life and health
OSHA - Occupational Safety and Health Administration
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH - National Institute for Occupational Safety and Health
N/A - Not applicable
LC50 - lethal concentration to 50% of test subjects
LD50 - lethal dose to 50% of test subjects
STOT-SE - Specific target organ toxicity (single exposure)
STOT-RE - Specific target organ toxicity (repeated exposure)
EC50 - effective concentration that causes 50% of response from test subjects
ErC50 - EC50 in terms of growth rate reduction
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
SARA - Superfund Amendments and Reauthorization Act
TSCA - Toxic Substances Control Act
DSL - Domestic Substances List
NDSL - Non-Domestic Substances List

This SDS complies with 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD, USA) and GHS. Although the information and recommendations set forth herein (hereinafter “information”) are presented in good faith and believed to be correct as of the date hereof, D.S. Brown Company makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will D.S. Brown Company be responsible for damages of any nature whatsoever resulting from the use of, misuse or reliance upon information. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to information or the product to which information refers. Regulatory requirements are subject to change and may differ from one location to another. It is the buyer’s responsibility to ensure its activities comply with federal, state or provincial and local laws and regulations.

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