Orca Composites

MATERIAL SAFETY DATA SHEET

Chemtrec 24-Hour Emergency Telephone

Domestic North America	**(800)424-9300**
International	**(800)527-3887**

1. Product and Supplier Identification

Product Name: **ORCA BLADE-100 CURING AGENT**

Product Number: **10040215**

Date of Prep: **01/20/2011**

Product Type: **Curing Agent / Aliphatic Amines**

Supplier: **Orca Composites**
24 S. Idaho St
Seattle, Wa 98134
(206)782-0660

2. Composition/Information On Ingredients

Hazardous Component	% (w/w)	CAS Number
Deta, reaction products with ethylene oxide	> 75%	28063-82-3
Diethylenetriamine(DETA)	< 30%	111-40-0

3. Hazards Identification

Emergency Overview

Harmful in contact with skin
Harmful if swallowed
Corrosive
Keep away from heat and sources of ignition
Severe respiratory irritant
Severe skin irritant
Severe eye irritant
May cause sensitization by skin contact
May cause sensitization by inhalation

Potential Health Effects

Inhalation: Inhalation of aerosol may cause irritation to the upper respiratory tract. Can cause severe eye, skin and respiratory tract burns. May cause nose, throat, and lung irritation. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system.
Eye contact: Causes eye burns. May cause blindness. Severe eye irritation.
Skin contact: Harmful in contact with skin. Causes skin burns. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Ingestion: Harmful if swallowed. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
Chronic Health Hazard: This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Prolonged contact may result in chemical burns and permanent damage. Repeated or prolonged contact causes sensitization, asthma and eczemas.

Exposure Guidelines
Target Organs: Skin. Eyes. Respiratory system.
Symptoms: Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat.

Aggravated Medical Condition
Eye disease Skin disorders and Allergies. Adverse skin effects (such as rash, irritation or corrosion). Adverse eye effects (such as conjunctivitis or corneal damage). Asthma. Adverse respiratory effects (such as cough, tightness of chest or shortness of breath).

4. First Aid Measures

General advice: Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
Eye contact: Rinse immediately with plenty of water also under the eyelids for at least 20 minutes. Remove contact lenses.
Skin contact: Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Wash off immediately with plenty of water for at least 20 minutes. Cover wound with sterile dressing. Take off contaminated clothing and shoes immediately. NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.
Ingestion: If a person vomits when lying on his back, place him in the recovery position. Prevent aspiration of vomit. Turn victim's head to the side.
Inhalation: If breathing has stopped or is labored, give assisted respirations.
Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

5. Fire Fighting Measures

Suitable extinguishing media: Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical.
Dry sand. Limestone powder.
Specific hazards: May generate ammonia gas. May generate toxic nitrogen oxide gases. Incomplete combustion may form carbon monoxide. Downwind personnel must be evacuated. Burning produces obnoxious and toxic fumes.
Special protective equipment for fire-fighters: Avoid contact with the skin. A face shield should be worn. Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.
Further information: Do not allow run-off from fire fighting to enter drains or water courses.

6. Accidental Release Measures

Personal precautions: Use self-contained breathing apparatus and chemically protective clothing. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.
Environmental precautions: Construct a dike to prevent spreading.
Methods for cleaning up Contact Air Products' Emergency Response Center for advice. Place in appropriate chemical waste container.
Additional advice: If possible, stop flow of product.

7. Handling and Storage

Handling: Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer causing nitrosamines could be formed. Avoid contact with skin and eyes. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid contact with eyes. Use only in well-ventilated areas. Avoid breathing vapors and/or aerosols. Use personal protective equipment. When using, do not eat, drink or smoke.
Storage: Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Do not store near acids. Keep containers tightly closed in a dry, cool and well-ventilated place.
Technical measures/Precautions: Do not store in reactive metal containers.

8. Exposure Controls, Personal Protection

Engineering measures: Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.
Personal protective equipment:
Respiratory protection: Wear appropriate respirator when ventilation is inadequate.
Hand protection: Neoprene gloves. Butyl-rubber. Nitrile rubber. Impervious gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period.
Eye protection: Full face shield with goggles underneath. Chemical resistant goggles must be worn.
Skin and body protection: Slicker Suit. Impervious clothing. Full rubber suit (rain gear). Rubber or plastic boots. Long sleeve shirts and trousers without cuffs.
Environmental exposure controls: Construct a dike to prevent spreading.
Special instructions for protection and hygiene: Discard contaminated leather articles. Provide readily accessible eye wash stations and safety showers. Wash at the end of each workshift and before eating, smoking or using the toilet.

Exposure limit(s)

Diethylenetriamine(DETA)	Time Weighted Average (TWA): ACGIH	1 ppm	-
Diethylenetriamine(DETA)	Recommended exposure limit (REL): NIOSH	1 ppm	4 mg/m3
Diethylenetriamine(DETA)	Time Weighted Average (TWA): OSHA Z1A	1 ppm	4 mg/m3
Diethylenetriamine(DETA)	Time Weighted Average (TWA) Permissible Exposure Limit (PEL): US CA OEL	1 ppm	4 mg/m3

9. Physical and Chemical Properties

Form: Liquid.
Color: Colorless.
Odor: Ammoniacal.
Relative density: 1.03 (water = 1)
Vapor pressure: < 1.00 mmHg at 21°C
Density: 64.301 lb/ft3 (1.03 g/cm3) at 70 °F (21°C)
pH: Alkaline.
Boiling point/range: 428 °F (220°C)
Melting point/range: -31 ºF (-35ºC)
Flash point: > 100°C
Water solubility: Completely soluble.

10. Stability and Reactivity

Stability: Stable under normal conditions.
Materials to avoid: Organic acids (i.e. acetic acid, citric acid etc.). Mineral acids.
Product slowly corrodes copper, aluminum, zinc and galvanized surfaces.

CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Nitrous acid and other nitrosating agents. Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds. Oxidizing agents.

Hazardous decomposition products: Nitric acid. Ammonia. Nitrogen oxides (NOx). Nitrogen oxide can react with water vapors to form corrosive nitric acid. Carbon monoxide. Carbon dioxide (CO2). Aldehydes. Nitrosamine.

11. Toxicological Information

Acute Health Hazard
Ingestion: LD50 : > 1,080mg/kg
Species: Rat.
Inhalation: No data is available on the product itself.
Inhalation - Components
Diethylenetriamine(DETA) LC50 (4 h) : > 0.07 - < 0.3mg/l
Species: Rat.

Skin: LD50 : > 2,000 mg/kg
Species: Rabbit.

Eye irritation/corrosion: Severe eye irritation.
Acute dermal irritation/corrosion: Severe skin irritation.

Sensitization: Component has caused skin and respiratory senstization in humans.

12. Ecological Information

Ecotoxicity effects
Aquatic toxicity: No data is available on the product itself.
Toxicity to other organisms: No data available.

Persistence and degradability
Mobility: No data available.
Bioaccumulation: No data is available on the product itself

13. Disposal Considerations

Waste from residues / unusedproducts: Contact supplier if guidance is required.

Contaminated packaging: Dispose of container and unused contents in accordance with federal, state, and local requirements.

14. Transport Information

U.S. Department of Transportation Ground (49 CFR)
Proper shipping name: Amines, liquid, corrosive, n.o.s. (Diethylenetriamine(DTA))
Hazard class or division: 8
Identification number: UN 2735
Packing group: III
International Air Transportation (ICAO/IATA)
Proper shipping name: Amines, liquid, corrosive, n.o.s. (Diethylenetriamine(DTA))
Hazard class or division: 8
Identification number: UN 2735
Packing group: III
Water Transportation (IMO/IMDG)
Proper shipping name: Amines, liquid, corrosive, n.o.s. (Diethylenetriamine(DTA))
Hazard class or division: 8
Identification number: UN 2735
Packing group: III
CTC **Proper shipping name:** Amines, liquid, corrosive, n.o.s. (Diethylenetriamine(DTA))
Hazard class or division: 8
Identification number: UN 2735
Packing group: III

15. Regulatory Information

OSHA Hazard Communication Standard (29 CFR 1910.1200) Hazard Class(es): Corrosive. Sensitizer.

USA: TSCA, Included on inventory
Canada: DSL, Included on inventory

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification: Acute Health Hazard
EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level: none

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65) This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

WHMIS Hazard Classification: Very Toxic Material Causing Other Toxic Effects, Toxic Material Causing

Other Toxic Effects, Corrosive Material

16. Other Information

HMIS Rating: Health – 3 / Flammability – 1 / Physical Hazard – 0

Preparation Date: January 27, 2011

Prepared by: Orca Composites

Comments: This Material Safety Data Sheet was prepared using information provided by Orca Composites and Fiberlay Inc.

Revisions: None