SAFETY DATA SHEET

Issuing Date 06-Aug-2007  Revision Date 09-Dec-2010  Revision Number 1

Section 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

<table>
<thead>
<tr>
<th><strong>Product Name</strong></th>
<th>Dibenzyl Azodicarboxylate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synonyms</strong></td>
<td>DBAD</td>
</tr>
<tr>
<td><strong>Formula</strong></td>
<td>C16H14N2O4</td>
</tr>
</tbody>
</table>

1.2. Relevant identified uses of the substance or mixture and uses advised against

<table>
<thead>
<tr>
<th><strong>Recommended Use</strong></th>
<th>Chemical intermediate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Uses advised against</strong></td>
<td>No information available</td>
</tr>
</tbody>
</table>

1.3. Details of the supplier of the safety data sheet

<table>
<thead>
<tr>
<th><strong>Company</strong></th>
<th>VanDeMark Chemical Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address</strong></td>
<td>1 North Transit Road</td>
</tr>
<tr>
<td></td>
<td>Lockport, NY 14094, USA</td>
</tr>
<tr>
<td><strong>Telephone</strong></td>
<td>716-433-6764</td>
</tr>
</tbody>
</table>

For further information, please contact

**E-mail Address** sales@vdmchemical.com

1.4. Emergency telephone number

<table>
<thead>
<tr>
<th><strong>Emergency Telephone Number</strong></th>
<th>CHEMTREC: +1-703-527-3887 (INTERNATIONAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Europe</strong></td>
<td>1-800-424-9300 (NORTH AMERICA)</td>
</tr>
</tbody>
</table>

Section 2. Hazards identification

2.1. Classification of the substance or mixture

**REGULATION (EC) No 1272/2008**

<table>
<thead>
<tr>
<th><strong>Category 2</strong></th>
<th>Serious Eye Damage/Eye Irritation</th>
</tr>
</thead>
</table>

**Physical Hazards** None

Classification according to EU Directives 67/548/EEC or 1999/45/EC

*For the full text of the R-phrases mentioned in this Section, see Section 16*

<table>
<thead>
<tr>
<th><strong>Symbol(s)</strong></th>
<th>Xi - Irritant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R-code(s)</strong></td>
<td>Xi;R36</td>
</tr>
</tbody>
</table>

2.2. Label Elements
Warning

Hazard Statements
H319 - Causes serious eye irritation

P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/ attention

2.3. Other information

Section 3. Composition/information on ingredients

3.1. Substances

Chemical Nature of the Preparation Organic compound.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification</th>
<th>EU - GHS Substance Classification</th>
<th>REACH No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dibenzyl Azodicarboxylate</td>
<td>219-508-0</td>
<td>2449-05-0</td>
<td>98</td>
<td>X f R36</td>
<td>Eye Irr. 2 (H319)</td>
<td>No data available</td>
</tr>
</tbody>
</table>

For the full text of the R-phrases mentioned in this Section, see Section 16
For the full text of the H-statements mentioned in this Section, see Section 16

Section 4. First aid measures

4.1. Description of first-aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

Ingestion Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Consult a physician.

Inhalation Move to fresh air. If symptoms persist, call a physician.

Protection of First-aiders Use personal protective equipment.

4.2. Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects No information available.

4.3. Indication of immediate medical attention and special treatment needed
Section 5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Extinguishing media which must not be used for safety reasons
No information available.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases
Thermal decomposition can lead to release of irritating gases and vapors.

5.3. Advice for firefighters

Special protective equipment for fire-fighters
As in any fire, wear self-contained breathing apparatus and full protective gear.

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

6.3. Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Clean contaminated surface thoroughly.

6.4. Reference to other sections

See Section 12 for additional information.

Section 7. Handling and storage

7.1. Precautions for Safe Handling

Handling
Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not breathe vapors/dust. Avoid contact with skin and eyes.

Hygiene Measures
When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Keep away from heat. Keep at temperatures below 44°C / 110°F. Keep in properly labeled containers. Shelf life 6 months.

7.3. Specific end use(s)

Exposure Scenario
No information available.

Other Guidelines
No information available.
Section 8. Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Measures

Showers, eyewash stations, and ventilation systems.

Personal protective equipment

Eye Protection

Safety glasses with side-shields.

Skin and Body Protection

Long sleeved clothing. Impervious gloves.

Hand Protection

Protective gloves.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Environmental Exposure Controls

Do not allow material to contaminate ground water system.

Section 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks/ Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid, Crystalline, Powder</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Yellow-orange</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>6-8</td>
<td>(20 % solution)</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>45-49°C / 113-120°F</td>
<td>None known</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>Decomposes</td>
<td>None known</td>
</tr>
<tr>
<td>Flash Point</td>
<td>230°C / 446°F</td>
<td>None known</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Relative Density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Insoluble in water.</td>
<td>None known</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>approx. 150 °C</td>
<td>None known</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

9.2. Other information

VOC Content (%)                     | No information available |
Section 10. Stability and reactivity

10.1. Reactivity
No data available.

10.2. Chemical stability
Stable under recommended storage conditions. Temperatures above 100°C will result in vigorous decomposition.

10.3. Possibility of hazardous reactions
Hazardous polymerization does not occur.

10.4. Conditions to avoid
Heat, flames and sparks. Extremes of temperature and direct sunlight. Exposure to air or moisture over prolonged periods.

Strong oxidizing agents. Water. Alcohols

10.6. Hazardous decomposition products
Thermal decomposition can lead to release of irritating gases and vapors. Nitrogen oxides (NOx). Carbon oxides.

Section 11. Toxicological information

11.1. Acute Toxicity

<table>
<thead>
<tr>
<th>Product Information</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>There is no data available for this product.</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>There is no data available for this product.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>There is no data available for this product.</td>
</tr>
</tbody>
</table>

LD50 Dermal:  >2150 mg/kg (rabbit)
LC50 Inhalation:  >28000 mg/m³ (dust)

Irritation

Irritating to eyes. Inhalation of dust in high concentration may cause irritation of respiratory system.

Corrosivity
No information available.

Sensitization
No information available.

Mutagenic Effects
No information available.

Carcinogenic Effects
No information available.

Reproductive Toxicity
No information available.

Developmental Toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
No information available.

Target Organ Effects
Eyes. Respiratory system.

Aspiration Hazard
No information available.

Section 12. Ecological information

12.1. Toxicity

Ecotoxicity Effects
The environmental impact of this product has not been fully investigated.

12.2. Persistence and degradability
No information available.

12.3. Bioaccumulative potential.
No information available.
12.4. Mobility in soil
No information available.

12.5. Results of PBT and vPvB assessment
No information available.

12.6. Other adverse effects
This product does not contain any known or suspected endocrine disruptors.

### Section 13. Disposal considerations

**Waste treatment methods**

- **Waste from Residues/Unused Products**
  Waste is classified as hazardous. Should not be released into the environment. Dispose of in accordance with local regulations.

- **Contaminated Packaging**
  Dispose of in accordance with local regulations.

- **Other Information**
  According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

### Section 14. Transport information

**IMDG/IMO**

14.1. UN-No
Not regulated.

14.2. Proper Shipping Name
Not regulated.

14.3. Hazard Class
Not regulated.

14.4. Packing Group
Not regulated.

14.5. Description
Not applicable.

14.6. Marine Pollutant
None.

None.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No information available.

**RID**

14.1. UN-No
Not regulated.

14.2. Proper Shipping Name
Not regulated.

14.3. Hazard Class
Not regulated.

14.4. Packing Group
Not regulated.

14.5. Environmental hazard
None.

None.

**ADR**

14.1. UN-No
Not regulated.

14.2. Proper Shipping Name
Not regulated.

14.3. Hazard Class
Not regulated.

14.4. Packing Group
Not regulated.

14.5. Environmental hazard
None.

None.
Section 14. Transport information

ICAO

<table>
<thead>
<tr>
<th>14.1. UN-No</th>
<th>Not regulated.</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. Proper Shipping Name</td>
<td>Not regulated.</td>
</tr>
<tr>
<td>14.3. Hazard Class</td>
<td>Not regulated.</td>
</tr>
<tr>
<td>Description</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>14.5. Environmental hazard</td>
<td>None.</td>
</tr>
</tbody>
</table>

IATA

<table>
<thead>
<tr>
<th>14.1. UN-No</th>
<th>Not regulated.</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. Proper Shipping Name</td>
<td>Not regulated.</td>
</tr>
<tr>
<td>14.3. Hazard Class</td>
<td>Not regulated.</td>
</tr>
<tr>
<td>Description</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>14.5. Environmental hazard</td>
<td>None.</td>
</tr>
</tbody>
</table>

Section 15. Regulatory information

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

International Inventories

<table>
<thead>
<tr>
<th>TSCA</th>
<th>Complies</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS/ELINCS</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Listed on NDSL</td>
</tr>
<tr>
<td>PICCS</td>
<td>-</td>
</tr>
<tr>
<td>ENCS</td>
<td>-</td>
</tr>
<tr>
<td>IECSC</td>
<td>-</td>
</tr>
<tr>
<td>AICS</td>
<td>-</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
</tbody>
</table>

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

15.2. Chemical Safety Assessment
No information available

Section 16. Other information

Full text of R-phrases referred to under Sections 2 and 3
R36 - Irritating to eyes

Full text of H-statements referred to under Sections 2 and 3
H319 - Causes serious eye irritation

Key literature references and sources for data
www.ChemADVISOR.com/
This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

General Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet