SAFETY DATA SHEET

1. Identification

Identification
Product name: Busch R 580

Additional identification
Chemical name: Mixture

Recommended use and restriction on use
Recommended use: Not determined.
Restrictions on use: Not determined.

Details of the supplier of the safety data sheet
Supplier
Company Name: Busch LLC
Address: 516 Viking Drive
Virginia Beach, VA 23452
US
Telephone: (757) 463-7800

Emergency telephone number:
FOR TRANSPORT EMERGENCY CALL CHEMTREC (800) 424-9300 OR BUSCH LLC (757) 463-7800
FOR NON-EMERGENCIES.

2. Hazard(s) identification

Hazard Classification

Health Hazards
Specific Target Organ Toxicity - Repeated Exposure
Category 2

Unknown toxicity
Acute toxicity, oral 0.0 %
Acute toxicity, dermal 0.0 %
Acute toxicity, inhalation, vapor 98.9 %
Acute toxicity, inhalation, dust or mist 98.9 %

Label Elements:

Hazard Symbol:

Signal Word: Warning

Hazard Statement: May cause damage to organs through prolonged or repeated exposure.
Precautionary Statement:

Prevention: Do not breathe dust or mists.
Response: Get medical advice/attention if you feel unwell.
Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None identified.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>Percent by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkarylamine</td>
<td>68411-46-1</td>
<td>1 - 5%</td>
</tr>
</tbody>
</table>

4. First-aid measures

General information: Get medical advice/attention if you feel unwell.
Ingestion: Treat symptomatically. Get medical attention.
Inhalation: Remove exposed person to fresh air if adverse effects are observed.
Skin Contact: Wash with soap and water. If skin irritation occurs, get medical attention.
Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.

Most important symptoms/effects, acute and delayed

Symptoms: See section 11.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: CO2, dry chemical, foam, water spray, water fog.
Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical: A solid stream of water will spread the burning material. Material creates a special hazard because it floats on water. See section 10 for additional information.

Special protective equipment and precautions for firefighters
6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures:**
No data available.

**Methods and material for containment and cleaning up:**
Dike far ahead of larger spill for later recovery and disposal. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material.

**Environmental Precautions:**
Avoid release to the environment. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

**Precautions for safe handling:**

**Maximum Handling Temperature:**
Not determined.

**Conditions for safe storage, including any incompatibilities:**
Store away from incompatible materials. See section 10 for incompatible materials.

**Maximum Storage Temperature:**
Not determined.

8. Exposure controls/personal protection

**Control Parameters:**

**Occupational Exposure Limits**
None of the components have assigned exposure limits.

**Appropriate engineering controls:**
Mechanical ventilation or local exhaust ventilation may be required. No special requirements under ordinary conditions of use and with adequate ventilation.

**Individual protection measures, such as personal protective equipment**

**General information:**
Use personal protective equipment as required.

**Eye/face protection:**
If contact is likely, safety glasses with side shields are recommended.
Skin Protection

Hand Protection: Suitable gloves can be recommended by the glove supplier. Consult clothing/glove manufacturer to determine appropriate type of glove for given situation. Gloves should always be inspected before each use and discarded if they show tears, pinholes, or signs of wear.

Other: No data available.

Respiratory Protection: Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator.

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state:</td>
<td>liquid</td>
</tr>
<tr>
<td>Form:</td>
<td>liquid</td>
</tr>
<tr>
<td>Color:</td>
<td>Colorless to yellow</td>
</tr>
<tr>
<td>Odor:</td>
<td>Mild</td>
</tr>
</tbody>
</table>

Odor threshold: No data available.

pH: No data available.

Freezing point: No data available.

Boiling Point: No data available.

Flash Point: > 514.9 °F (268.3 °C) (Cleveland Open Cup)

Evaporation rate: No data available.

Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability limit - upper (%)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flammability limit - lower (%)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Explosive limit - upper (%)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Explosive limit - lower (%)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Vapor pressure:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Vapor density:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Relative density:</td>
<td>0.838 68 °F (20 °C)</td>
</tr>
</tbody>
</table>

Solubility(ies)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solubility in water:</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Solubility (other):</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

Partition coefficient (n-octanol/water): No data available.

Auto-ignition temperature: No data available.

Decomposition temperature: No data available.

Viscosity: 43.3 mm²/s (104 °F (40 °C) ) 7.5 mm²/s (100 °C (212 °F) )

Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk density:</td>
<td>6.96 lb/gal 77 °F (25 °C)</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Reactivity: No data available.

Chemical Stability: Material is stable under normal conditions.

Possibility of Hazardous Reactions: Will not occur.

Conditions to Avoid: Not determined.


Hazardous Decomposition Products: Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, and other products of incomplete combustion.

11. Toxicological information

Information on likely routes of exposure

Inhalation: No data available.

Ingestion: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Information on toxicological effects

Acute toxicity

Oral
Product: Not classified for acute toxicity based on available data.

Dermal
Product: Not classified for acute toxicity based on available data.

Inhalation
Product: Not classified for acute toxicity based on available data.

Skin Corrosion/Irritation:
Product: Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin. Prolonged or repeated contact may cause irritation. Remarks: Not classified as a primary skin irritant.

Serious Eye Damage/Eye Irritation:
Product: Remarks: Not classified as a primary eye irritant.

Respiratory sensitization: No data available

Skin sensitization: Alkarylamine Classification: Not a skin sensitizer. (Literature) Not a skin sensitizer.

Specific Target Organ Toxicity - Single Exposure:
Alkarylamine

If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.

Aspiration Hazard: No data available

Chronic Effects
Carcinogenicity: No data available

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens: No carcinogenic components identified


Germ Cell Mutagenicity:
Alkarylamine The Ames Salmonella test for mutagenicity was negative for this product.

Reproductive toxicity:
Carboxylic ester Not Classified based on available data.

Specific Target Organ Toxicity - Repeated Exposure:
Alkarylamine Repeated overexposure may result in liver and kidney damage. Oral: Target Organ(s): Liver, Kidney

12. Ecological information

Ecotoxicity
Fish
Alkarylamine LC 50 (Zebra Fish, 4 d): > 100 mg/l

Aquatic Invertebrates
Alkarylamine EC 50 (Water flea (Daphnia magna), 2 d): 51 mg/l

Toxicity to Aquatic Plants
Alkarylamine EC 50 (Green algae (Scenedesmus quadricauda), 3 d): > 100 mg/l

Toxicity to soil dwelling organisms No data available

Sediment Toxicity No data available

Toxicity to Terrestrial Plants No data available
Toxicity to Above-Ground Organisms
No data available

Toxicity to microorganisms
Alkarylamine
EC 50 (Sludge, 0.1 d): > 100 mg/l

Persistence and Degradability
Biodegradation
Alkarylamine
OECD TG 301 B, 1 %, 28 d, Not readily degradable.

Bioaccumulative Potential
Bioconcentration Factor (BCF)
No data available

Partition Coefficient n-octanol / water (log Kow)
No data available

Mobility:
No data available

Other Adverse Effects:
No data available.

13. Disposal considerations

Disposal instructions: Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Dispose of packaging or containers in accordance with local, regional, national and international regulations. Empty container contains product residue which may exhibit hazards of product.

Contaminated Packaging: Container packaging may exhibit hazards.

14. Transport information

DOT
Not regulated.

IMDG
Not regulated.

IATA
Not regulated.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
None known.

Shipping descriptions may vary based on mode of transport, quantities, temperature of the material, package size, and/or origin and destination. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. Review classification requirements before shipping materials at elevated temperatures.

15. Regulatory information

US Federal Regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.
Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Chronic
(Delayed)

SARA 302 Extremely Hazardous Substance
SARA 304 Emergency Release Notification
SARA 311/312 Hazardous Chemical
SARA 313 (TRI Reporting)

This product may contain chemical(s) regulated under the Superfund Amendments and Reauthorization Act (SARA). For additional information please contact Busch LLC.

US State Regulations

US. California Proposition 65
No ingredient regulated by CA Prop 65 present.

Inventory Status

Australia (AICS)
All components are in compliance with chemical notification requirements in Australia.

Canada (DSL/NDSL)
All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.

China (IECSC)
All components of this product are listed on the Inventory of Existing Chemical Substances in China.

European Union (REACH)
To obtain information on the REACH compliance status of this product, please contact Busch LLC.

Japan (ENCS)
All components are in compliance with the Chemical Substances Control Law of Japan.

Korea (ECL)
All components are in compliance in Korea.

New Zealand (NZIoC)
All components are in compliance with chemical notification requirements in New Zealand.

Philippines (PICCS)
All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).

Switzerland (SWISS)
All components are in compliance with the Environmentally Hazardous Substance Ordinance in Switzerland.

Taiwan (TCSCA)
All components of this product are listed on the Taiwan inventory.

United States (TSCA)
All components of this material are on the US TSCA Inventory.

The information that was used to confirm the compliance status of this product may deviate from the chemical information shown in Section 3.
16. Other information, including date of preparation or last revision

HMIS Hazard ID

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic</td>
<td>* 1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Hazards</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID

- Flammability: 1
- Health: 0
- Reactivity: 0
- Special hazard: 1

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date: 06/01/2015
Version #: 1.0
Source of information: Internal company data and other publically available resources.
Further Information: Contact supplier (see Section 1)
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