SAFETY DATA SHEET

Section 1. Identification

Product code : RC89-1234/90005208/K502
GHS product identifier : 4700 UV COATING

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

Identified uses
Colorant; Printing ink related material; Printing ink.

Manufacturer / Distributor : Sun Chemical Corporation
North American Inks
135 West Lake Street
Northlake, IL 60164
US: +1 708 236 3798

Emergency telephone number (with hours of operation) : +1 (800) 424-9300 (U.S.) (24 hours)
+1 (703) 527-3887 (International) (24 hours)
Other information : +1 708 236 3798

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Do not breathe vapor. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response : Get medical attention if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Not applicable.
Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.
Section 2. Hazards identification

Hazards not otherwise classified: None known.

Section 3. Composition/information on ingredients

Substance/mixture: Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS number/other identifiers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trimethylolpropane triacrylate</td>
<td>Proprietary</td>
<td>25 - 50</td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3epoxypropane, esters with acrylic acid</td>
<td>-----</td>
<td>25 - 50</td>
</tr>
<tr>
<td>Acrylated Oligomer</td>
<td>Proprietary</td>
<td>10 - 20</td>
</tr>
<tr>
<td>Benzophenone</td>
<td>119-61-9</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Methyldiethanolamine</td>
<td>105-59-9</td>
<td>1 - 2.5</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

In case of accidental eye contact, avoid concurrent exposure to the sun or other sources of UV light which may increase the sensitivity of the eyes.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

In case of accidental skin contact, avoid concurrent exposure to the sun or other sources of UV light which may increase the sensitivity of skin.

Ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure or if feeling unwell. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: Causes serious eye irritation.
## Section 4. First aid measures

<table>
<thead>
<tr>
<th>Condition</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Causes skin irritation. May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

### Indication of immediate medical attention and special treatment needed, if necessary

<table>
<thead>
<tr>
<th>Notes to physician</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific treatments</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>No specific treatment.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protection of first-aiders</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.</td>
<td></td>
</tr>
</tbody>
</table>

### See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use dry chemical, CO₂, water spray (fog) or foam.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unsuitable extinguishing media</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not use water jet.</td>
<td></td>
</tr>
</tbody>
</table>

### Specific hazards arising from the chemical

<table>
<thead>
<tr>
<th>Hazardous thermal decomposition products</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds</td>
<td></td>
</tr>
</tbody>
</table>

### Special protective actions for fire-fighters

<table>
<thead>
<tr>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
</tbody>
</table>

### Special protective equipment for fire-fighters

<table>
<thead>
<tr>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</td>
</tr>
</tbody>
</table>

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<table>
<thead>
<tr>
<th>For non-emergency personnel</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</td>
<td></td>
</tr>
</tbody>
</table>

### For emergency responders

<table>
<thead>
<tr>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
</tr>
</tbody>
</table>

### Environmental precautions

<table>
<thead>
<tr>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
</tbody>
</table>

### Methods and materials for containment and cleaning up

<table>
<thead>
<tr>
<th>Small spill</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.</td>
<td></td>
</tr>
</tbody>
</table>
Section 6. Accidental release measures

Large spill
- Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures
- Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used, without Personal Protective Equipment measures. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene
- Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities
- Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Keep away from direct sunlight or strong incandescent light.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzophenone</td>
<td>ACGIH TLV (United States). TWA: 2 mg/m³ 8 hours.</td>
</tr>
</tbody>
</table>

Appropriate engineering controls
- If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls
- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures
- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Section 8. Exposure controls/personal protection

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state: Liquid.
Color: Not available.
Odor: Characteristic.
Odor threshold: Not applicable.
pH: Not tested
Melting point: Not available.
Boiling point: Lowest known value: 132°C (273°F)
Flash point: Lowest known value: >93.3°C (200°F)
VOC % (w/w): 2.66
Evaporation rate: Highest known value: >1 (Methyldiethanolamine) Weighted average: 0.88 compared with butyl acetate
Flammability (solid, gas): Not available.
Lower and upper explosive (flammable) limits: Not tested
Vapor pressure: Not available.
Vapor density: Not tested
Density: 1.115 g/cm³ (9.306 lbs/gal)
Solubility: Not tested
Partition coefficient: n-octanol/water: Not applicable.
Auto-ignition temperature: Not applicable.
Decomposition temperature: Not applicable.
Viscosity: Not tested
Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>trimethylolpropane triacrylate</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>5170 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Acrylated Oligomer</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>6200 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Benzophenone</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>3535 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Methyldiethanolamine</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;10 g/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary : No known significant effects or critical hazards.

Irritation/Corrosion

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Respiratory : No known significant effects or critical hazards.

Sensitization

Skin : No known significant effects or critical hazards.

Respiratory : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylated Oligomer</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzophenone</td>
<td>Category 2</td>
<td>Oral</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Aspiration hazard
Not available.

Information on the likely routes of exposure

<table>
<thead>
<tr>
<th></th>
<th>Inhalation</th>
<th>Skin contact</th>
<th>Ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No known significant effects or critical hazards.</td>
<td>Causes skin irritation. May cause an allergic skin reaction.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

Eye contact
Causes serious eye irritation.

Inhalation
No known significant effects or critical hazards.

Skin contact
Causes skin irritation. May cause an allergic skin reaction.

Ingestion
No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

<table>
<thead>
<tr>
<th></th>
<th>Inhalation</th>
<th>Skin contact</th>
<th>Ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No specific data.</td>
<td>Adverse symptoms may include the following: irritation, redness</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

Potential acute health effects

<table>
<thead>
<tr>
<th></th>
<th>Inhalation</th>
<th>Skin contact</th>
<th>Ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No specific data.</td>
<td>Adverse symptoms may include the following: irritation, redness</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

Potential chronic health effects

<table>
<thead>
<tr>
<th></th>
<th>Inhalation</th>
<th>Skin contact</th>
<th>Ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No specific data.</td>
<td>Adverse symptoms may include the following: irritation, redness</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

Delayed and immediate effects and also chronic effects from short and long term exposure

<table>
<thead>
<tr>
<th></th>
<th>Inhalation</th>
<th>Skin contact</th>
<th>Ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No specific data.</td>
<td>Adverse symptoms may include the following: irritation, redness</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

Numerical measures of toxicity

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal</td>
<td>58916.7 mg/kg</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

Section 12. Ecological information

Toxicity
Not available.

Persistence and degradability
Not available.

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>trimethylolpropane triacrylate 4,4' -Isopropylidenediphenol, oligomeric reaction</td>
<td>0.67</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>products with 1-chloro-2, 3-epoxypropane, esters with acrylic acid</td>
<td>1.6 to 3</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Acrylated Oligomer</td>
<td>2</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Benzophenone</td>
<td>3.18</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Methyldiethanolamine</td>
<td>-1.08</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>): Not available.

Other adverse effects
No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods
The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>Mexico Classification</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Section 14. Transport information

Additional information | - | - | - | - | - | - |

Special precautions for user: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

TSCA 8(b) inventory: Listed
U.S. Federal regulations:
- TSCA 4(a) final test rules: Benzophenone
- TSCA 8(a) PAIR: Acrylated Oligomer; heptane; 4-Methoxyphenol; octamethylcyclotetrasiloxane; Decamethylcyclopentasiloxane
- TSCA 12(b) one-time export: Benzophenone
- Commerce control list precursor: Triethanolamine
- Clean Water Act (CWA) 307: toluene; Phenol
- Clean Water Act (CWA) 311: toluene; Phenol

SARA 313

<table>
<thead>
<tr>
<th>Supplier notification</th>
<th>Product name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None identified.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Toxics in Packaging (CONEG): In compliance.
Canada inventory: All components are listed or exempted.

International regulations:
- International lists:
  - Australia inventory (AICS): All components are listed or exempted.
  - China inventory (IECSC): All components are listed or exempted.
  - Japan inventory (ENCS): All components are listed or exempted.
  - Korea inventory: All components are listed or exempted.
  - Malaysia Inventory (EHS Register): Not determined.
  - New Zealand Inventory of Chemicals (NZIoC): Not determined.
  - Philippines inventory (PICCS): All components are listed or exempted.
  - Taiwan Chemical Substances Inventory (TCSI): All components are listed or exempted.
  - Turkey inventory: Not determined.
  - Europe Inventory: Please contact your supplier to get the information.

Section 16. Other information

National Fire Protection Association (U.S.A.)

Health
- Flammability: 2

Instability/Reactivity: 1

Special

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.
Section 16. Other information

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History
Date of issue/Date of revision : 1/24/2018
Date of previous issue : 6/15/2017
Version : 4.03

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
UN = United Nations

References : Not available.
Indicates information that has changed from previously issued version.

Notice to reader
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.
**VOLATILE COMPONENT INFORMATION**

A. Product Density:
1.) 1.115 g/cm³ (9.306 lbs/gal)  

B. Nonvolatile Content:
1.) 97.3 Weight percent of nonvolatiles in product  
2.) 97.1 Volume percent of nonvolatiles in product  
3.) 9.32 Density, lb nonvolatiles/gal nonvolatiles

C. Volatiles:
1.) 2.7 Weight percent of total volatiles in product  
2.) 8.76 Density, lb volatiles/gal volatiles

D. Water Content:
1.) 0.0 Weight percent of water in product  
2.) 0.0 Volume percent of water in product

E. Volatile Organic Compounds, (VOCs):
1.) 2.7 Weight percent of organic volatiles in product  
2.) 2.8 Volume percent of organic volatiles in product  
3.) 8.77 Density, lb organic volatiles/gal organic volatiles  
4.) 98.2 Weight percent of VOCs in total volatiles  
5.) 98.0 Volume percent of VOCs in total volatiles

F. VOC Content in Product Expressed in Other Terms:
1.) a.) 0.2 lb VOC / gal Product  
1.) b.) 29.66 grams VOC / liter Product  
2.) a.) 0.2 lb VOC / gal Product less water & exempt solvent  
2.) b.) 29.68 grams VOC / liter Product less water & exempt solvent  
2.) c.) 2.7 Weight percent of organic volatiles (VOC) in Product less water & exempt solvents.  
3.) 0.2 lb VOC / gal total nonvolatiles
### G. Volatiles

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS number</th>
<th>% by weight</th>
<th>Density (lb/gal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.) Hazardous Air Pollutants VOCs (HAPs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.) Other VOCs (Non-HAPs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyldiethanolamine</td>
<td>105-59-9</td>
<td>2.5</td>
<td>8.66</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td>0.1</td>
<td>9.39</td>
</tr>
<tr>
<td>3.) water</td>
<td>7732-18-5</td>
<td>0.0</td>
<td>8.34</td>
</tr>
<tr>
<td>4.) Ammonia (reported as CAS# 7664-41-7; includes CAS# 1336-21-6)</td>
<td>7664-41-7</td>
<td>0.0</td>
<td>5.99</td>
</tr>
<tr>
<td>5.) Other Non-VOC, Non-HAP Volatiles</td>
<td></td>
<td>0.0</td>
<td>8.58</td>
</tr>
</tbody>
</table>

**NOTE:**
The US EPA definition of VOC does not include water, ammonia or other exempt substances. The VOC values reported are based on current formulations and supplier data. This report also serves as a Certified Product Data Sheet (CPDS) as defined by 40 CFR 63 National Emissions Standard for HAPS, Subpart KK for the Printing Industry.