### Section 1: Identification of the substance/mixture and of the company/undertaking

<table>
<thead>
<tr>
<th>1.1. Product identifier</th>
</tr>
</thead>
</table>
| Product name           | Nadic Methyl Anhydride NE 407; NMA 407  
| Product form           | Mixture  

| 1.2. Relevant identified uses of the substance or mixture and uses advised against |  
| Use of the substance/mixture | This product has not been fully evaluated and is intended for research and development use only  

| 1.3. Details of the supplier of the safety data sheet |  
| Dixie Chemical Company, Inc.  
| 10601 Bay Area Blvd  
| Pasadena TX 77507  
| Phone: 281-474-3271  
| Email: msds@dixiechemical.com  

| 1.4. Emergency telephone number |  
| Emergency number | CHEMTREC® (800) 424-9300 Domestic, (703) 527-3887 International  

### Section 2: Hazards identification

| 2.1. Classification of the substance or mixture |  
| GHS-US classification |  
| Acute Tox. 4 (Oral) | H302  
| Acute Tox. 3 (Inhalation:dust,mist) | H331  
| Skin Irrit. 2 | H315  
| Eye Dam. 1 | H318  
| Resp. Sens. 1 | H334  
| Skin Sens. 1 | H317  

| 2.2. Label elements |  
| GHS-US labelling |  
| Hazard pictograms (GHS-US) |  
| Signal word (GHS-US) | Danger  
| Hazard statements (GHS-US) | H302 - Harmful if swallowed  
| H315 - Causes skin irritation  
| H317 - May cause an allergic skin reaction  
| H318 - Causes serious eye damage  
| H331 - Toxic if inhaled  
| H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled  

| Precautionary statements (GHS-US) |  
| P261 - Avoid breathing mist  
| P264 - Wash hands, forearms and face thoroughly after handling  
| P270 - Do not eat, drink or smoke when using this product  
| P271 - Use only outdoors or in a well-ventilated area  
| P272 - Contaminated work clothing must not be allowed out of the workplace  
| P280 - Wear eye protection, face protection, protective clothing, protective gloves  
| P284 - Wear respiratory protection  
| P301+P312 - If swallowed: Call a doctor, a poison center if you feel unwell  
| P302+P352 - If on skin: Wash with plenty of soap and water  
| P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
| P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
| P310 - Immediately call a doctor, a POISON CENTER  
| P321 - Specific treatment (see first aid instructions on this label)  
| P330 - Rinse mouth  
| P333+P313 - If skin irritation or rash occurs: Get medical advice/attention  
| P342+P311 - If experiencing respiratory symptoms: Call a poison center, a doctor  
| P362+P364 - Take off contaminated clothing and wash it before reuse  
| P403+P333 - Store in a well-ventilated place. Keep container tightly closed  
| P405 - Store locked up  
| P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation  

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
SECTION 5: Firefighting measures

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture
Fire hazard : Must be preheated before ignition can occur.
Explosion hazard : Product is not explosive.
Reactivity : Carbon oxides may be emitted upon combustion of material. This material reacts with water or steam to form phthalic acids. This reaction is slightly exothermic.

5.3. Advice for firefighters
Firefighting instructions : Use cold water spray to cool fire-exposed containers to minimize risk of rupture. Do not dispose of fire-fighting water in the environment. Dispose of in accordance with relevant local regulations. Prevent human exposure to fire, fumes, smoke and products of combustion.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).
6.1.1. For non-emergency personnel

Protective equipment: Wear Protective equipment as described in Section 8.

Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions

Notify authorities if product enters sewers or public waters. Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up: Eliminate ignition sources. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).

6.4. Reference to other sections

See Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Wear personal protective equipment. Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station. Avoid contact with skin, eyes and clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Preferably transfer by pump or gravity. Handle small quantities under a lab hood. Prevent product vapors decomposition from contacting hot spots. Prevent product vapors decomposition from electric arc action (welding).

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Protect from sunlight. Store in a well-ventilated place. Store in original container. Keep the container tightly closed. Keep in a bonded area.

Packaging materials: Polyethylene. Steel coated (enameled).

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Methyl-5-norbornene-2,3-dicarboxylic anhydride (25134-21-8) | 
|---|---|
| Remark (ACGIH) | OELs not established |
| Remark (OSHA) | OELs not established |

Proprietary Ingredient 1

| Remark (ACGIH) | OELs not established |
| Remark (OSHA) | OELs not established |

Proprietary Ingredient 2

| Remark (ACGIH) | OELs not established |
| Remark (OSHA) | OELs not established |

8.2. Exposure controls

Appropriate engineering controls: Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.


Hand protection: Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Be aware that the chemical may penetrate the gloves. Frequent changes are advisable. Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection: Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.
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Safety Data Sheet  
Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Skin and body protection</th>
<th>: Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory protection</td>
<td>: Use NIOSH (or other equivalent national standard) -approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.</td>
</tr>
</tbody>
</table>

**SECTION 9: Physical and chemical properties**

9.1. **Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>: Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>: Dark brown to Green.</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>: No data available</td>
</tr>
<tr>
<td>pH</td>
<td>: 4</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>: No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>: No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>: No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>: No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>: 135 °C (275 °F)</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>: No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>: No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>: No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>: No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>: No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>: No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>: No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>: No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>: No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>: No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic at 25 °C</td>
<td>: 264 cps</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>: No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>: No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>: No data available</td>
</tr>
</tbody>
</table>

9.2. **Other information**

No additional information available

**SECTION 10: Stability and reactivity**

10.1. **Reactivity**

Carbon oxides may be emitted upon combustion of material. This material reacts with water or steam to form phthalic acids. This reaction is slightly exothermic.

10.2. **Chemical stability**

Stable under normal conditions.

10.3. **Possibility of hazardous reactions**

Heating above 200 °C may result in product decomposition and release of hazardous fumes.

10.4. **Conditions to avoid**


10.5. **Incompatible materials**


10.6. **Hazardous decomposition products**

Carbon monoxide (CO), carbon dioxide (CO₂).

**SECTION 11: Toxicological information**

11.1. **Information on toxicological effects**

Acute toxicity : Oral: Harmful if swallowed. Inhalation:dust,mist: Toxic if inhaled.

<table>
<thead>
<tr>
<th>Methyl-5-norborne-2,3-dicarboxylic anhydride (25134-21-8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>Propietary Ingredient 2</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Property/Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation. pH: 4</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye damage. pH: 4</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Symptoms/injuries after inhalation</td>
<td>Toxic if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td>Symptoms/injuries after skin contact</td>
<td>Causes skin irritation. May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Symptoms/injuries after eye contact</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>Symptoms/injuries after ingestion</td>
<td>Harmful if swallowed.</td>
</tr>
</tbody>
</table>

## SECTION 12: Ecological information

**12.1. Toxicity**

Ecology - general : No information available.

**12.2. Persistence and degradability**

<table>
<thead>
<tr>
<th>NMA 407</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
</tr>
</tbody>
</table>

**12.3. Bioaccumulative potential**

<table>
<thead>
<tr>
<th>NMA 407</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
</tr>
</tbody>
</table>

**12.4. Mobility in soil**

No additional information available

**12.5. Other adverse effects**

No additional information available

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

## SECTION 14: Transport information

In accordance with DOT

Transport document description : UN2810 Toxic, liquids, organic, n.o.s. (contains: Nadic Methyl Anhydride), 6.1, II
UN-No.(DOT) : 2810
DOT NA no. : UN2810
Proper Shipping Name (DOT) : Toxic, liquids, organic, n.o.s. contains: Nadic Methyl Anhydride
Hazard labels (DOT) : 6.1 - Poison

Packing group (DOT) : II - Medium Danger
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L
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DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75):
- 60 L

DOT Vessel Stowage Location:
- B
  - (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other:
- 40 - Stow “clear of living quarters”

Additional information:
- Emergency Response Guide (ERG) Number: 153
- No supplementary information available.

Transport by sea (IMDG):
- No additional information available

Air transport (IATA):
- No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

NMA 407
- All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory or are exempt
- SARA Section 311/312 Hazard Classes: Immediate (acute) health hazard

15.2. International regulations

One or more of the chemical substances in this product is not listed on the Australian Inventory of Chemical Substances (AICS)
One or more of the chemical substances in this product are not listed on the Canadian Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL)
One or more of the chemical substances in this product is not listed on the Chinese Chemical Inventory of Existing Chemical Substances (IECSC)
One or more of the chemical substances in this product are not listed on the European EINECS inventory or ELINCS list
One or more of the chemical substances in this product are not listed on the Japanese New and Existing Chemical Substances inventory (ENCS)
One or more of the chemical substances in this product is not listed on the Korean Existing Chemicals Inventory (KECI)
One or more of the chemical substances in this product is not listed on the New Zealand Inventory of Chemicals (NZIoC)
One or more of the chemical substances in this product is not listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS)
One or more of the chemical substances in this product are not listed on the Taiwan Chemical Substance Inventory (TSCI)

15.3. US State regulations

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

Chromium (7440-47-3)
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Massachusetts - Right To Know List
- U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
- U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

SECTION 16: Other information

Indication of changes:
- Revision 1.0: New SDS Created.

Revision date:
- 07/12/2018

Other information:
- Author: BCS.

NFPA health hazard:
- 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard:
- 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity:
- 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.

HMIS III Rating:
- Health: 3*
- Flammability: 1
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| Physical | 1 |
| Personal protection | |

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

distributed by:

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