SECTION 1 - Product and Company Identification

Product Name: Natural Gas Pipeline Drag Reducing Agent
Intended Application: Flow improver for pipeline transporta-
tion of natural gas
Supplier: Themark Corporation
5455 Hidalgo Street • Houston, 77056
Phone: 412-551-9893
Emergency Phone (24hrs): 1-613-996-6666 CanTec

SECTION 2 - Hazards Identification

Emergency Overview
CAUTION! MAY CAUSE IRRITATION TO SKIN AND EYES.

Hazard Rating
Health Rating: 1-Slight
Flammability Rating: 1-Slight
Reactivity Rating: 1-Slight
Contact Rating: 1-Slight
Lab Protective Equip: GOGGLES & LAB COAT. Appropriate
clothing should be used for industrial
applications.
Storage Color Code: Orange (General Storage)

Potential Health Effects
Inhalation: No adverse health effects via inhalation.

Ingestion: Relatively non-toxic. Ingestion of sizable amount
(over 20ml) may cause some gastrointestinal upset and
temporary central nervous system depression.

Skin Contact: Mild irritant and defatting agent, especially
on prolonged contact.

Eye Contact: Mild irritant especially on prolonged contact.

Chronic Exposure: Lactic acidosis and seizures have been
reported following chronic ingestion.

SECTION 3 - Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyridine Hydrochloride</td>
<td>628-13-7</td>
<td>40 - 60</td>
</tr>
<tr>
<td>N,N-Dimethylacetamide</td>
<td>127-19-5</td>
<td>40 - 60</td>
</tr>
</tbody>
</table>

SECTION 4 - First Aid Measures

Inhalation: Remove to fresh air. Not expected to require
first aid measures.

Ingestion: Not expected to require first aid measures. Give
several glasses of water to drink to dilute. If large amounts
were swallowed, get medical advice.

Skin Contact: Remove any contaminated clothing. Wash
skin with soap and water for at least 15 minutes. Get
medical attention if irritation develops or persists.

Eye Contact: In case of contact, immediately flush eyes
with plenty of water for at least 15 minutes, lifting upper
and lower eyelids occasionally. Call a physician if irritation
persists.

Note to Physician: Give several glasses of water to drink to
dilute and medical advice.

SECTION 5 - Firefighting Measures

Fire:

Flash point: 68°C

Auto-ignition temperature: N.A.

Flammable Liquid and Vapor!
Material can support combustion.

Explosion: N.A.

Fire Extinguishing Media: Dry chemical, foam or carbon
dioxide.
**Special Information:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Move exposed containers from fire area, if it can be done without risk. Use water to keep fire-exposed containers cool. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire. Vapors can flow along surfaces to distant ignition source and flash back.

**SECTION 6 - Accidental Release Measures**

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! Do NOT attempt to dissolve the product in a hydrocarbon solvent - this will produce a viscous gel which is more difficult to dispose of than the original product.

**SECTION 7 - Handling and Storage**

Protect container from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture, and incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

**SECTION 8 - Exposure Control / Personal Protection**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>OSHA Permissible</th>
<th>ACGIH Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyridine Hydrochloride</td>
<td>---------------</td>
<td>Not Found</td>
</tr>
<tr>
<td>N,N-Dimethylacetamide</td>
<td>---------------</td>
<td>Not Found</td>
</tr>
</tbody>
</table>

**Ventilation System:** A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

**Personal Respirators (NIOSH Approved):**

If the exposure limit is exceeded, a half-face respirator with an organic vapor cartridge and particulate filter (NIOSH type P95 filter) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the applicable regulatory agency or respirator supplier, whichever is lowest. A full-face piece respirator with an organic vapor cartridge and particulate filter (NIOSH P100 or R100 filter) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. Please note that N series filters are not recommended for this material. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator.

**WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:** Wear protective gloves and clean body-covering clothing.

**Eye Protection:** Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

**SECTION 9 - Physical and Chemical Properties**

- **Appearance:** Light yellow liquid
- **Odor:** Hydrocarbon
- **Solubility:** Miscible in hydrocarbons
- **Specific Gravity:** 1.07 ± 0.1
- **pH:** Neutral

**SECTION 10 - Reactivity and Stability Data**

**Stability:** Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:** Carbon dioxide and carbon monoxide may form when heated to decomposition. Aldehydes or lactic, pyruvic or acetic acids may also be formed.

**Hazardous Polymerization:** Will not occur.

**Incompatibilities:** Strong oxidizing agents.

**Conditions to Avoid:** Heat, flames, ignition sources and incompatibles.

**SECTION 11 - Toxicological Information**

**Ingredient** | **LD₅₀ Inhalation Rat** | **LC₅₀ Skin Rabbit** | **LD₅₀**
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyridine Hydrochloride</td>
<td>Not Found</td>
<td>Not Found</td>
</tr>
<tr>
<td>N,N-Dimethylacetamide</td>
<td>Not Found</td>
<td>Not Found</td>
</tr>
</tbody>
</table>

**Cancer Lists**

- **NTP Carcinogen**
- **Known Anticipated**
- **ARC Category**

**Ingredient** | **Known** | **Anticipated** | **ARC Category**
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyridine Hydrochloride</td>
<td>Not Found</td>
<td>Not Found</td>
</tr>
<tr>
<td>N,N-Dimethylacetamide</td>
<td>Not Found</td>
<td>Not Found</td>
</tr>
</tbody>
</table>
**SECTION 12 - Ecological Information**

**Environmental Fate:** When released into the soil, this material is not expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into water, this material is not expected to readily biodegrade.

**Environmental Toxicity:**
This material is expected to be slightly toxic to aquatic life.

**SECTION 13 - Disposal Considerations**

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA-approved incinerator or disposed in a RCRA-approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

**SECTION 14 - Transportation Information**

This product is non-regulated.

**SECTION 15 - Regulatory Information**

**Chemical Inventory Status – Part 1**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>TSCA</th>
<th>EC</th>
<th>Japan</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Drag Reducing Agent</td>
<td>Not Found</td>
<td>Yes</td>
<td>Not Found</td>
<td>Not Found</td>
</tr>
<tr>
<td>N,N-Dimethylacetamide</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Chemical Inventory Status – Part 2**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Korea</th>
<th>DSL</th>
<th>NDSL</th>
<th>Phil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Drag Reducing Agent</td>
<td>Not Found</td>
<td>Not Found</td>
<td>Not Found</td>
<td>Not Found</td>
</tr>
<tr>
<td>N,N-Dimethylacetamide</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Federal, State & International Regulations – Part 1**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>RQ</th>
<th>TPQ</th>
<th>List</th>
<th>Chem.Cat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Drag Reducing Agent</td>
<td>Not Found</td>
<td>Not Found</td>
<td>Not Found</td>
<td>Not Found</td>
</tr>
<tr>
<td>N,N-Dimethylacetamide</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Federal, State & International Regulations – Part 2**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CERCLA</th>
<th>RCRA</th>
<th>TSCA</th>
<th>CDTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Drag Reducing Agent</td>
<td>Not Found</td>
<td>261.33</td>
<td>8(d)</td>
<td>Not Found</td>
</tr>
<tr>
<td>N,N-Dimethylacetamide</td>
<td>No</td>
<td></td>
<td>12(b)</td>
<td>No</td>
</tr>
</tbody>
</table>

Chemical Weapons Convention: No

**SECTION 16 - Other Information**

**NFPA Ratings:**
Health: 0  
Flammability: 1  
Reactivity: 0

**Hazard Warning:**
CAUTION! MAY CAUSE IRRITATION TO EYES.

**Precautions:** Avoid contact with eyes. Wash eyes after handling.

**First Aid:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician if irritation develops or persists.

**Product Use:** Pipeline

**Disclaimer of Liability**

Themark Corporation provides the above information in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Themark Corporation makes no representations or warranties, either express or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, We are not responsible for damages resulting from use of or reliance upon this information.