MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

<table>
<thead>
<tr>
<th>Material name</th>
<th>HumiSeal Thinner 73</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version #</td>
<td>03</td>
</tr>
<tr>
<td>Issue date</td>
<td>08-15-2014</td>
</tr>
<tr>
<td>Revision date</td>
<td>11-20-2015</td>
</tr>
<tr>
<td>Supersedes date</td>
<td>10-13-2015</td>
</tr>
<tr>
<td>CAS #</td>
<td>Mixture</td>
</tr>
<tr>
<td>Product code</td>
<td>HumiSeal Thinner 73</td>
</tr>
<tr>
<td>Product use</td>
<td>Thinner for Protective coatings</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>CHASE CORPORATION Zeta Drive Plant</td>
</tr>
<tr>
<td>information</td>
<td>201 Zeta Drive</td>
</tr>
<tr>
<td></td>
<td>Pittsburgh, PA 15238</td>
</tr>
<tr>
<td></td>
<td>United States</td>
</tr>
<tr>
<td></td>
<td>1-866-932-0800</td>
</tr>
<tr>
<td></td>
<td>1-800-424-9300</td>
</tr>
<tr>
<td></td>
<td>(+1)703-527-3887</td>
</tr>
</tbody>
</table>

2. Hazards Identification

Emergency overview

WARNING

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. FLAMMABLE LIQUID AND VAPOR. May cause flash fire or explosion. Will be easily ignited by heat, spark or flames.

Harmful in contact with eyes. Irritating to respiratory system. Irritating to skin. Prolonged exposure may cause chronic effects.

OSHA regulatory status

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Inhalation. Ingestion. Skin contact. Eye contact.

Eye contact may result in corneal injury. Contact may irritate or burn eyes. Do not get this material in contact with eyes.

Skin

Irritating to skin. Avoid contact with the skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Inhalation

Irritating to respiratory system. Prolonged inhalation may be harmful. Avoid breathing dust/fume/gas/mist/vapors/spray.

Ingestion

Components of the product may be absorbed into the body by ingestion. Do not ingest.

Target organs

Central nervous system. Eyes. Respiratory system. Skin.

Chronic effects

Conjunctiva. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Signs and symptoms


Potential environmental effects

Components of this product are hazardous to aquatic life. May cause long-term adverse effects in the environment.
3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Butyl Acetate</td>
<td>123-86-4</td>
<td>90 - 100</td>
</tr>
</tbody>
</table>

4. First Aid Measures

First aid procedures

**Inhalation**
Move to fresh air. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.

**Skin contact**
Take off immediately all contaminated clothing. Wash off immediately with plenty of water. Take off contaminated clothing and wash before reuse. Get medical attention if irritation develops and persists.

**Eye contact**
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

**Ingestion**
Rinse mouth thoroughly. If ingestion of a large amount does occur, call a poison control center immediately. Do not induce vomiting without advice from poison control center.

**Notes to physician**
Symptoms may be delayed.

**General advice**
If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

**Flammable properties**
Flammable by OSHA criteria. Heat may cause the containers to explode. Runoff to sewer may cause fire or explosion hazard.

**Extinguishing media**
- Suitable extinguishing media: Alcohol resistant foam. Dry powder. Carbon dioxide (CO2).
- Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

**Protection of firefighters**
Fire may produce irritating, corrosive and/or toxic gases.

**Specific hazards arising from the chemical**
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

**Preventive equipment and precautions for firefighters**
In case of fire and/or explosion do not breathe fumes. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Move containers from fire area if you can do so without risk. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

**Specific methods**
Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In the event of fire and/or explosion do not breathe fumes.

6. Accidental Release Measures

**Personal precautions**
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the MSDS.

**Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not contaminate water.

**Methods for containment**
Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up

Extinguish all flames in the vicinity. Eliminate all ignition sources if safe to do so. Should not be released into the environment. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the MSDS.

7. Handling and Storage

Handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. All equipment used when handling the product must be grounded. These alone may be insufficient to remove static electricity. Do not get this material in contact with eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid prolonged exposure. Use only in area provided with appropriate exhaust ventilation. Wash thoroughly after handling. Avoid release to the environment.

Storage

The pressure in sealed containers can increase under the influence of heat. Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a well-ventilated place. Store in cool place. Keep away from food, drink and animal feedingstuffs. Keep in an area equipped with sprinklers. Use care in handling/storage. Store away from incompatible materials (see Section 10 of the MSDS).

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>US. ACGIH Threshold Limit Values Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-BUTYL ACETATE (CAS 123-86-4)</td>
<td>STEL</td>
<td>200 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>150 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-BUTYL ACETATE (CAS 123-86-4)</td>
<td>PEL</td>
<td>710 mg/m3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biological limit values</th>
</tr>
</thead>
</table>
| Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ensure adequate ventilation, especially in confined areas.

<table>
<thead>
<tr>
<th>Engineering controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear protective gloves.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Personal protective equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye / face protection</td>
</tr>
<tr>
<td>Wear safety glasses with side shields (or goggles). Do not get in eyes. Eye wash fountain is recommended.</td>
</tr>
<tr>
<td>Skin protection</td>
</tr>
<tr>
<td>Avoid contact with the skin. Wear appropriate chemical resistant clothing. Chemical resistant gloves.</td>
</tr>
<tr>
<td>Respiratory protection</td>
</tr>
<tr>
<td>Wear positive pressure self-contained breathing apparatus (SCBA).</td>
</tr>
<tr>
<td>Hand protection</td>
</tr>
<tr>
<td>Wear protective gloves.</td>
</tr>
<tr>
<td>General hygiene considerations</td>
</tr>
<tr>
<td>When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.</td>
</tr>
</tbody>
</table>

9. Physical & Chemical Properties

Appearance
Physical state: Liquid.
Form: Liquid.
Color: Clear Nearly colorless
Odor: Fruity
Odor threshold: 0.63 - 7.4 ppm
pH: Does not apply.
Vapor pressure: 15.33 hPa estimated
Vapor density: 4 versus Air
Boiling point: 258.98 °F (126.1 °C) estimated
Melting point/Freezing point: -108.4 °F (-78 °C) estimated
Solubility (water): Negligible
Specific gravity: 0.88
Relative density: 0.88 g/cm³
Flash point: 71.6 °F (22.0 °C)
Flammability limits in air, upper, % by volume: 7.6 %
Flammability limits in air, lower, % by volume: 1.4 %
Auto-ignition temperature: 797 °F (425 °C) estimated
VOC: 100 % estimated
Evaporation rate: 1 BuAc
Percent volatile: 100 %
Partition coefficient (n-octanol/water): 1.78
Other data
Density: 0.88 g/cm³
Explosive limit - lower (%): 1.8 %
Explosive limit - upper (%): 8 %
Flammability class: Flammable IB estimated
Miscible (water): Negligible

10. Chemical Stability & Reactivity Information
Chemical stability: Risk of ignition.
Conditions to avoid: Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials: Nitrates.
Hazardous decomposition products: No hazardous decomposition products are known.
Possibility of hazardous reactions: Hazardous polymerization does not occur.

11. Toxicological Information
Toxicological data
Product: n-Butyl Acetate
Species: Wistar rat
Test Results: 160 mg/l, 4 Hours estimated

Material name: HumiSeal Thinner 73
HumiSeal Thinner 73    Version #: 03    Revision date: 11-20-2015    Issue date: 08-15-2014
### Components

**n-Butyl Acetate (CAS 123-86-4)**

<table>
<thead>
<tr>
<th>Test Results</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Inhilation</td>
<td>Wistar rat</td>
<td>160 mg/l, 4 Hours</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>Rat</td>
<td>14000 mg/kg</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

**Sensitization**

Due to lack of data the classification is not possible.

**Local effects**

Components of the product may be absorbed into the body through the skin. Irritating to respiratory system. Irritating to skin. Contact may irritate or burn eyes.

**Chronic effects**

Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged exposure may cause chronic effects.

**Carcinogenicity**

Due to lack of data the classification is not possible.


Not listed.

**Skin corrosion/irritation**

Irritating to skin.

**Neurological effects**

Hazardous by OSHA criteria.

**Further information**

Symptoms may be delayed.

### 12. Ecological Information

**Ecotoxicological data**

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Butyl Acetate</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50 Fish</td>
<td>91 mg/l, 96 hours estimated</td>
</tr>
</tbody>
</table>

**Components**

| n-Butyl Acetate (CAS 123-86-4) | | |
| **Aquatic** | | |
| Fish | LC50 | Fathead minnow (Pimephales promelas) 17 - 19 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

**Ecotoxicity**

Components of this product are hazardous to aquatic life.

**Environmental effects**

Harmful to aquatic organisms. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**Persistence and degradability**

Not available.

**Bioaccumulation / accumulation**

<table>
<thead>
<tr>
<th>Octanol/water partition coefficient log Kow</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Butyl Acetate</td>
<td>1.78, at 25 ºC</td>
</tr>
<tr>
<td>2.3, at 25 ºC</td>
<td></td>
</tr>
<tr>
<td>n-Butyl Acetate</td>
<td>1.78</td>
</tr>
</tbody>
</table>

**Mobility in environmental media**

This product is miscible in water.

### 13. Disposal Considerations

**Waste codes**

D001: Waste Flammable material with a flash point <140 F

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
**Disposal instructions**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose in accordance with all applicable regulations.

**Waste from residues / unused products**

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport Information

**DOT**

- **UN number**: UN1263
- **UN proper shipping name**: PAINT RELATED MATERIAL
- **Transport hazard class(es)**
  - **Class**: 3
  - **Subsidiary risk**: -
  - **Label(s)**: 3
- **Packing group**: II
- **Special precautions for user**: Read safety instructions, MSDS and emergency procedures before handling.
- **Special provisions**: 149, B52, IB2, T7, TP1, TP8, TP28
- **Packaging exceptions**: 150
- **Packaging non bulk**: 202
- **Packaging bulk**: 242

**IATA**

- **UN number**: UN1263
- **UN proper shipping name**: PAINT RELATED MATERIAL
- **Transport hazard class(es)**
  - **Class**: 3
  - **Subsidiary risk**: -
  - **Packing group**: II
  - **Environmental hazards**: No.
  - **ERG Code**: 3H
- **Special precautions for user**: Read safety instructions, MSDS and emergency procedures before handling.
- **Other information**
  - **Passenger and cargo aircraft**: Allowed.
  - **Cargo aircraft only**: Allowed.

**IMDG**

- **UN number**: UN1263
- **UN proper shipping name**: PAINT RELATED MATERIAL
- **Transport hazard class(es)**
  - **Class**: 3
  - **Subsidiary risk**: -
  - **Packing group**: II
  - **Environmental hazards**: No.
  - **Marine pollutant**: F-E, S-E
- **EmS**: F-E, S-E
- **Special precautions for user**: Read safety instructions, MSDS and emergency procedures before handling.
15. Regulatory Information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number
Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))
Not regulated.

DEA Exempt Chemical Mixtures Code Number
Not regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA (Superfund) reportable quantity, lbs
n-Butyl Acetate: 5000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

<table>
<thead>
<tr>
<th>Hazard categories</th>
<th>Immediate Hazard</th>
<th>Delayed Hazard</th>
<th>Fire Hazard</th>
<th>Pressure Hazard</th>
<th>Reactivity Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Section 302 extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
No

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*"A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

US state regulations
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US. Massachusetts RTK - Substance List
n-Butyl Acetate (CAS 123-86-4)
16. Other Information

Further information
HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings
Health: 2*
Flammability: 3
Physical hazard: 0

NFPA ratings
Health: 2
Flammability: 3
Instability: 0

Disclaimer
44000 cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user’s responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information offered in this data sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication, however, no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. This material is intended for industrial use only. No warranty, expressed or implied is made.

Revision Information
Transport Information: Material Transportation Information