# MATERIAL SAFETY DATA SHEET

## PRODUCT
FERROZINC 71 BRIGHTNER

### 1. INFORMATION ON INGREDIENTS

| HAZARDOUS INGREDIENTS | Aromatic Aldehyde (TS) | Alkali Metal Acid Sulphite (TS) |

### 2. PHYSICAL AND CHEMICAL PROPERTIES

| 1. PHYSICAL STATE | liquid |
| 2. COLOUR | Colourless to pale yellow |
| 3. SPECIFIC GRAVITY | 1.030 - 1.032 |
| 4. SOLUBILITY IN WATER | Soluble in all proportion |
| 5. ODOR | Nothing characteristic |
| 6. OTHER (pH) | 1.5 - 3.0 |

### 3. HEALTH HAZARD IDENTIFICATION ACUTE TOXICITY

1. **INHALATION**: Mist or vapor may irritate respiratory tract.
2. **INGESTION**: Can cause severe burns to mouth, throat, Esophagus and stomach.
3. **SKIN**: Can cause irritation
4. **EYES**: Can cause irritation
5. **CHRONIC EXPOSURE**: Chronic exposure effects not established
6. **CARCINOGEN REFERENCE**: Not listed by NTP, IARC, OSHA

### 4. EMERGENCY AND FIRST AID MEASURES

1. **INHALATION**: Remove victim to fresh air. If breathing has stopped, administer oxygen if available. Seek medical attention.
2. **INGESTION**: Never give anything by mouth to an unconscious person. Seek medical attention. Induce vomiting.
3. **EYES**: Flush with plenty of water, holding eye lids apart to ensure flushing of entire eye surface.
4. **SKIN**: Immediately wash contaminated skin with plenty of water. Remove contaminated clothing and footwear. If irritation or burn develops seek medical attention.

### 5. FIRE FIGHTING MEASURES

1. **FLASH POINT C**: None
2. **EXTINGUISHING MEDIA**: Water fog or spray / Carbon dioxide/ Chemical Foam
3. **SPECIAL FIRE FIGHTING PROCEDURES**: Wear protective clothing & self contained breathing apparatus. Keep containers cool to prevent rupture and release of material.
4. **UNUSUAL FIRE AND EXPLOSION HAZARD**: Not flammable. If involved in a fire, it will generate toxic oxides of carbon, sulphur and miscellaneous organic vapors.
6. ACCIDENTAL RELEASE MEASURES

Avoid contact with skin, eyes and clothing. Contain spill and soak up in suitable absorbent. Shovel up into plastic containers and cover. Dispose of in accordance with local and state regulations.

7. HANDLING AND STORAGE

1. HANDLING
No special measures necessary provided the product is used correctly.

2. STORAGE
Store in cool & dry place (preferably within 25 - 35 °C under closed condition to avoid any contaminations) keep away from oxidizers. Loosen cover cautiously when opening. Keep container closed when not in use. Keep only in original containers. Store above freezing temperature.

8. PERSONAL PROTECTIVE EQUIPMENT

1. VENTILATION
Local exhaust or general ventilation recommended.

2. RESPIRATOR
Use NIOSH approved respirator whenever necessary

3. EYE PROTECTION
Chemical safety goggles or face shields

4. GLOVES
Neoprene / Natural Rubber

5. OTHER PROTECTIVE CLOTHINGS
Chemical resistant coveralls, hat & shoes or boots

6. GENERAL SAFETY AND HYGIENE MEASURES
Handle in accordance with good industrial hygiene and safety practice. Safety showers and eye wash stations should be provided in areas where this product is used. Wash with soap and water after use.

7. DISPOSAL CONSIDERATIONS
Wash thoroughly the empty packing material / drum / carboys and collect the washing in suitable containers & dispose the same in accordance to the local, state and national regulations

9. STABILITY AND REACTIVITY DATA

1. STABILITY
Stable

2. CONDITIONS TO AVOID
Stable under normal conditions.

3. INCOMPATABILITY
Oxidizers

4. HAZARDOUS DECOMPOSITION
Toxic oxides of carbon, sulphur and miscellaneous organic vapors.

5. HAZARDOUS POLYMERIZATION
Will not occur.

T. S : Trade Secret as per 29 CFR 1910.1200
CAS: Chemical Abstract Service
PEL: OSHA Permissible Exposure Limit
TLV: ACGIH Threshold Limit Value
NTP: National Toxicology Program.
IARC: Int'l Agency for research on cancer
DISCLAIMERS

The information presented here is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. The conditions or methods of handling, storage, and disposal are beyond our control and may be beyond our knowledge, for this and other reasons we do not assume responsibility and expressly disclaim liability for loss, damage, or expenses in any way connected with the handling, storage, use, or disposal of the product.
# MATERIAL SAFETY DATA SHEET

## PRODUCT

<table>
<thead>
<tr>
<th></th>
<th>FERROZINC 70 CARRIER</th>
</tr>
</thead>
</table>

## 1. INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>HAZARDOUS INGREDIENTS</th>
<th>None</th>
</tr>
</thead>
</table>

## 2. PHYSICAL AND CHEMICAL PROPERTIES

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PHYSICAL STATE</td>
</tr>
<tr>
<td>2</td>
<td>COLOUR</td>
</tr>
<tr>
<td>3</td>
<td>SPECIFIC GRAVITY</td>
</tr>
<tr>
<td>4</td>
<td>SOLUBILITY IN WATER</td>
</tr>
<tr>
<td>5</td>
<td>ODOUR</td>
</tr>
<tr>
<td>6</td>
<td>OTHER (pH)</td>
</tr>
</tbody>
</table>

## 3. HEALTH HAZARD IDENTIFICATION ACUTE TOXICITY

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INHALATION</td>
</tr>
<tr>
<td>2</td>
<td>INGESTION</td>
</tr>
<tr>
<td>3</td>
<td>SKIN</td>
</tr>
<tr>
<td>4</td>
<td>EYES</td>
</tr>
<tr>
<td>5</td>
<td>CHRONIC EXPOSURE</td>
</tr>
<tr>
<td>6</td>
<td>CARCINOGEN REFERENCE</td>
</tr>
</tbody>
</table>

## 4. EMERGENCY AND FIRST AID MEASURES

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INHALATION</td>
</tr>
<tr>
<td>2</td>
<td>INGESTION</td>
</tr>
<tr>
<td>3</td>
<td>EYES</td>
</tr>
<tr>
<td>4</td>
<td>SKIN</td>
</tr>
</tbody>
</table>

## 5. FIRE FIGHTING MEASURES

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FLASH POINT C</td>
</tr>
<tr>
<td>2</td>
<td>EXTINGUISING MEDIA</td>
</tr>
<tr>
<td>3</td>
<td>SPECIAL FIRE</td>
</tr>
</tbody>
</table>
FIGHTING PROCEDURES

Keep containers cool to prevent rupture and release of material.

4 UNUSUAL FIRE AND EXPLOSION HAZARD

Not flammable. If involved in a fire, it will generate toxic oxides of carbon, nitrogen and miscellaneous organic vapors.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with skin, eyes and clothing. Contain spill and soak up in suitable absorbent. Shovel up into plastic containers and cover. Dispose of in accordance with local and state regulations.

7. HANDLING AND STORAGE

1. HANDLING

No special measures necessary provided the product is used correctly.

2 STORAGE

Store in cool & dry place (preferably within 25 - 35 ºC under closed condition to avoid any contaminations) keep away from oxidizers. Loosen cover cautiously when opening. Keep container closed when not in use. Keep only in original containers. Store above freezing temperature.

8. PERSONAL PROTECTIVE EQUIPMENT

1 VENTILATION

Local exhaust or general ventilation.

2 RESPIRATOR

Use Niosh approved respirator whenever necessary

3 EYE PROTECTION

Chemical safety goggles or face shields

4 GLOVES

Neoprene / Natural Rubber

5 OTHER PROTECTIVE CLOTHINGS

Chemically resistant coveralls, hat & shoes or boots.

6 GENERAL SAFETY AND HYGIENE MEASURES.

Handle in accordance with good industrial hygiene and safety practice. Safety showers and eye wash stations should be provided in areas where this product is used. Wash with soap and water after use.

7 DISPOSAL CONSIDERATIONS

Wash thoroughly the empty packing material / drum/ carboys and collect the washing in suitable containers & dispose the same in accordance to the local state and national regulations

9. STABILITY AND REACTIVITY DATA

1 STABILITY

Stable

2 CONDITIONS TO AVOID

Stable under normal conditions.

3 INCOMPATABILITY (Material to avoid)

Oxidizers

4 HAZARDOUS DECOMPOSITION

Toxic oxides of carbon, sulphur and Miscellaneous organic vapors.

5. HAZARDOUS POLYMERIZATION

Will not occur.

T. S : Trade Secret as per 29 CFR 1910.1200
CAS : Chemical Abstract Service
PEL : OSHA Permissible Exposure Limit
TLV : ACGIH Threshold Limit Value
NTP : National Toxicology Program
IARC : Int’l Agency for research on cancer

DISCLAIMERS :

The information presented here is believed to be accurate and represent the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. The conditions or methods of handling, storage and disposal are beyond our control and may be beyond our knowledge, for this and other reasons we do not assume responsibility and expressly disclaim liability for loss, damage or expenses any way connected with the handling, storage, use or disposal of the product.
# MATERIAL SAFETY DATA SHEET

## FERROZINC IRON ADDITIVE

### 1. INFORMATION ON INGREDIENTS

| Hazardous Ingredients | None |

### 2. PHYSICAL AND CHEMICAL PROPERTIES

| Physical State | Liquid |
| Colour        | Brown |
| Specific Gravity | 1.07 – 1.08 |
| Solubility in Water | Soluble in all proportion |
| Odour         | Nothing characteristic |
| Other (pH)   | 4 - 5 |

### 3. HEALTH HAZARD IDENTIFICATION ACUTE TOXICITY

1. **Inhalation**: Mist or vapor may irritate respiratory tract.
2. **Ingestion**: Can cause irritation to mouth, throat and stomach.
3. **Skin**: Can cause irritation.
4. **Eyes**: Can cause irritation.
5. **Carcinogen**: Not listed by NTP, IARC, OSHA

### 4. EMERGENCY AND FIRST AID MEASURES

1. **Inhalation**: Remove person from contaminated area, if Breathing is difficult. Seek medical attention immediately.
2. **Ingestion**: Never give anything by mouth to an Unconscious person. Seek medical attention immediately. If swallowed give large amounts of water and induce vomiting.
3. **Eyes**: Wash with plenty of water and seek medical attention.
4. **Skin**: Wash with plenty of water. Remove contaminated clothing and footwear. Seek medical attention.

### 5. FIRE FIGHTING MEASURES

1. **Flash Point C**: Not applicable
2. **Extinguising Media**: Water fog or spray / Carbon dioxide / chemical Foam
3. **Special Fire Fighting Measures**: Wear protective clothing & self contained breathing apparatus. Keep containers cool to prevent rupture and release of material.
4. **Unusual Fire And Explosion Hazard**: Not flammable. If involved in a fire, it will generate toxic oxides of carbon, nitrogen and miscellaneous organic vapors.

### 6. ACCIDENTAL RELEASE MEASURES

Avoid contact with skin, eyes and clothing. Contain spill and soak up in suitable absorbent. Shovel up into plastic containers and cover. Dispose of in accordance with local and state regulations.
7. HANDLING AND STORAGE

HANDLING
No special measures necessary provided the product is used correctly. Wash thoroughly the empty packing material / drum/ carboys and collect the washing in suitable containers & dispose the same in accordance to the local state and national regulations.

STORAGE
Store in cool & dry place under closed condition to avoid any contaminations. Keep away from oxidizers. Loosen cover cautiously when opening. Keep container closed when not in use. Keep only in original containers. Store above freezing temperature.

8. PERSONAL PROTECTIVE EQUIPMENT

1. VENTILATION
Local exhaust or general ventilation.

2. RESPIRATOR
Use Niosh approved respirator whenever necessary.

3. EYE PROTECTION
Chemical safety goggles or face shields.

4. GLOVES
Neoprene / Natural Rubber.

5. OTHER PROTECTIVE CLOTHINGS
Chemically resistant coveralls, hat & shoes or boots.

6. GENERAL SAFETY AND HYGINE MEASURES
Handle in accordance with good industrial hygiene and safety practice. Safety showers and eye wash stations should be provided in areas where this product is used. Wash with soap and water after use.

7. DISPOSAL CONSIDERATIONS
Wash thoroughly the empty packing material / drum/ carboys and collect the washing in suitable containers & dispose the same in accordance to the local state and national regulations.

9. STABILITY AND REACTIVITY DATA

1. STABILITY
Stable

2. CONDITIONS TO AVOID
N.A.

3. INCOMPATABILITY (Material to avoid)
Oxidizers

4. HAZARDOUS DECOMPOSITION
Toxic oxides of carbon and sulphur and miscellaneous organic vapors.

5. HAZARDOUS POLYMERIZATION
Will not occur.

N.A.: Not applicable
T. S.: Trade Secret as per 29 CFR 1910.1200
CAS: Chemical Abstract Service
PEL: OSHA Permissible Exposure Limit

DISCLAIMERS
The information presented here is believed to be accurate and represent the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from it use. The conditions or methods of handling, storage and disposal are beyond our control and may be beyond our knowledge, for this and other reasons we do not assume responsibility and expressly disclaim liability for loss, damage or expenses any way connected with the handling, storage, use or disposal of the product.
MSDS

MATERIAL SAFETY DATA SHEET

PRODUCT    FERROZINC IRON SOLUBLIZER

1. INFORMATION ON INGREDIENTS

| HAZARDOUS INGREDIENTS | None |

2. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>1   PHYSICAL STATE</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>2   COLOUR</td>
<td>Colour less</td>
</tr>
<tr>
<td>3   SPECIFIC GRAVITY</td>
<td>1.1600 – 1.1700</td>
</tr>
<tr>
<td>4   SOLUBILITY IN WATER</td>
<td>Soluble in all proportion</td>
</tr>
<tr>
<td>5   ODOUR</td>
<td>Nothing characteristic</td>
</tr>
<tr>
<td>6   OTHER (pH)</td>
<td>6 – 7</td>
</tr>
</tbody>
</table>

3. HEALTH HAZARD IDENTIFICATION ACUTE TOXICITY

<table>
<thead>
<tr>
<th>1   INHALATION</th>
<th>Mist or vapor may irritate respiratory tract.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2   INGESTION</td>
<td>Can cause irritation to mouth, throat and stomach.</td>
</tr>
<tr>
<td>3   SKIN</td>
<td>Can cause irritation.</td>
</tr>
<tr>
<td>4   EYES</td>
<td>Can cause irritation.</td>
</tr>
<tr>
<td>5   CARCINOGEN REFERENCE</td>
<td>Not listed by NTP, IARC, OSHA</td>
</tr>
</tbody>
</table>

4. EMERGENCY AND FIRST AID MEASURES

<table>
<thead>
<tr>
<th>1   INHALATION</th>
<th>Remove person from contaminated area, if Breathing is difficult. Seek medical attention immediately.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2   INGESTION</td>
<td>Never give anything by mouth to an Unconscious person. Seek medical attention immediately. If swallowed give large amounts of water and induce vomiting.</td>
</tr>
<tr>
<td>3   EYES</td>
<td>Wash with plenty of water and seek medical attention.</td>
</tr>
<tr>
<td>4   SKIN</td>
<td>Wash with plenty of water. Remove contaminated clothing and footwear. Seek medical attention.</td>
</tr>
</tbody>
</table>

5. FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>1   FLASH POINT C</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>2   EXTINGUISING MEDIA</td>
<td>Water fog or spray / Carbon dioxide/ chemical Foam</td>
</tr>
<tr>
<td>3   SPECIAL FIRE FIGHTING MEASURES</td>
<td>Wear protective clothing &amp; self contained breathing apparatus. Keep containers cool to prevent rupture and release of material.</td>
</tr>
<tr>
<td>4   UNUSUAL FIRE AND EXPLOSION HAZARD</td>
<td>Not flammable. If involved in a fire, it will generate toxic oxides of carbon, nitrogen and miscellaneous organic vapors.</td>
</tr>
</tbody>
</table>

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with skin, eyes and clothing. Contain spill and soak up in suitable absorbent. Shovel up into plastic containers and cover. Dispose of in accordance with local and
7. HANDLING AND STORAGE

HANDLING
No special measures necessary provided the product is used correctly. Wash thoroughly the empty packing material / drum/ carboys and collect the washing in suitable containers & dispose the same in accordance to the local state and national regulations.

STORAGE
Store in cool & dry place under closed condition to avoid any contaminations. Keep away from oxidizers. Loosen cover cautiously when opening. Keep container closed when not in use. Keep only in original containers. Store above freezing temperature.

8. PERSONAL PROTECTIVE EQUIPMENT

1. VENTILATION
   Local exhaust or general ventilation.

2. RESPIRATOR
   Use Niosh approved respirator whenever necessary.

3. EYE PROTECTION
   Chemical safety goggles or face shields.

4. GLOVES
   Neoprene / Natural Rubber.

5. OTHER PROTECTIVE CLOTHINGS
   Chemically resistant coveralls, hat & shoes or boots.

6. GENERAL SAFETY AND HYGINE MEASURES
   Handle in accordance with good industrial hygiene and safety practice. Safety showers and eye wash stations should be provided in areas where this product is used. Wash with soap and water after use.

7. DISPOSAL CONSIDERATIONS
   Wash thoroughly the empty packing material / drum/ carboys and collect the washing in suitable containers & dispose the same in accordance to the local state and national regulations.

9. STABILITY AND REACTIVITY DATA

1. STABILITY
   Stable

2. CONDITIONS TO AVOID
   N.A.

3. INCOMPATABILITY (Material to avoid)
   Oxidizers

4. HAZARDOUS DECOMPOSITION
   Toxic oxides of carbon and sulphur and miscellaneous organic vapors.

5. HAZARDOUS POLYMERIZATION
   Will not occur.

   N. A : Not applicable
   T. S : Trade Secret as per 29 CFR 1910.1200
   CAS : Chemical Abstract Service
   PEL : OSHA Permissible Exposure Limit

DISCLAIMERS
The information presented here is believed to be accurate and represent the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. The conditions or methods of handling, storage and disposal are beyond our control and may be beyond our knowledge, for this and other reasons we do not assume responsibility and expressly disclaim liability for loss, damage or expenses any way connected with the handling, storage, use or disposal of the product.