

Revision number: 1 Revision date: 07/06/2018

## 1. IDENTIFICATION

Product name: Product code:

Product use: Restrictions on use:

Company: TCI America 9211 N. Harborgate Street Portland, OR 97203 U.S.A. Telephone: +1-800-423-8616 / +1-503-283-1681 Fax: +1-888-520-1075 / +1-503-283-1987 e-mail: sales-US@TCIchemicals.com www.TCIchemicals.com

## 4-Methylesculetin M0766

For laboratory research purposes. Not for drug or household use.

TCI AMERICA

SAFETY DATA SHEET

Emergency telephone number:

Chemical Emergencies: TCI America (8:00am - 5:00pm) PST +1-503-286-7624 Transportation Emergencies: Chemtrec 24-Hour +1-800-424-9300 (U.S.A.) +1-703-527-3887 (International) **Responsible department:** TCI America Environmental Health Safety and Security +1- 503-286-7624

## 2. HAZARD(S) IDENTIFICATION

OSHA Haz Com: CFR 1910.1200: WHMIS 2015:

Signal word:

Skin Corrosion/Irritation [Category 2] Eye Damage/Irritation [Category 2A]

Warning!

Hazard Statement(s):

Causes skin irritation Causes serious eye irritation

Pictogram(s) or Symbol(s):



Precautionary Statement(s): [Prevention] [Response]

Hazards not otherwise classified: [HNOC] Wash hands and face thoroughly after handling. Wear protective gloves, eye protection. If on skin: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. 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 advice or attention.

May be harmful if swallowed.

# 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Substance/mixture: |
|--------------------|
| Components:        |
| Percent:           |
| CAS RN:            |
| Molecular Weight:  |
| Chemical Formula:  |
| Synonyms:          |

Substance 4-Methylesculetin >98.0%(HPLC)(T) 529-84-0 192.17 C10H8O4 6,7-Dihydroxy-4-methylcoumarin

| Description of first aid measures<br>Inhalation:         Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical<br>advice/attention if you feel unwell.           Skin contact:         Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. If<br>skin irritation or rash occurs: Get medical advice/attention.           Eye contact:         Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.<br>Continue rinsing. If eye irritation persists: Get medical advice/attention.           Ingestion:         Get medical advice/attention if you feel unwell. Rinse mouth.           Symptoms/effects:         Redness.           Acute:         Redness.           Delayed:         No data available           Not available.         No data available           Stable extinguishing media:         Dry chemical, foam, water spray, carbon dioxide.           Hazardous combustion products:         These products include: Carbon oxides<br>Other specific hazards:           Older for firefighters:         Wear self-contained breathing apparatus if possible.           6. ACCIDENTAL RELEASE MEASURES         Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to<br>non-involved personnel should be controlled around the leakage area by roping off, etc.<br>Preven product from entering drains.           Wethods and materials for containmed         Sweep dust to collect if tinto an aritight container, taking care not to disperse it. Adhered or collected     <   |  |  |  |  |  |
|--|--|--|--|--|--|
| Inhibition:         Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.           Skin contact:         Remove/Take off immediately all contaminated clothing. Getly wash with plenty of scap and water. If skin irritation or raish occurs: Get medical advice/attention.           Eye contact:         Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue insing, if eye intritation presists: Get medical advice/attention.           Symptoms/effects:         Redness.           Acute:         Redness.           Delayord:         No data available           Indication of any immediate medical attention:         No data available           Notes to physician:         No data available           Notes to physician:         Closed containers may explode from heat of a fre.           Advice of inforgighters:         Closed containers may explode from heat of a fre.           Advice of inforgighters:         Vear self-contained breathing apparatus if possible.           6. ACCIDENTAL RELEASE MEASURES         Prevent offic facars, include: containers may explode from heat of a fre.           Personal proceations, protective guipment. Keep people away from and upwind of split/leak. Entry to non-involved personnel protective equipment. Keep people away from and upwind of split/leak. Entry to face areait of a containers of a duce aritight or accordance with appropriate laws and regulations.           Preceautions for safe handling:   | 4. FIRST-AID MEASURES                    |  |  |  |  |
| Skin contact:       Remove/Take of fimnediately all contaminated clothing. Genity wash with pleny of scap and water. If skin irritation or rash occurs: Get medical advice/attention.         Eye contact:       Rinse calloady with water for several multes. Remove contact lenses, if present and easy to do. Continue rinsing, if eye irritation persists: Get medical advice/attention.         Symptoms/effects:       Redness.         Acute:       Redness.         Delayed:       No data available         Indication of any immediate medical attention:       Notes to physician:         Notes to physician:       No data available         Notes to physician:       No data available         Suitable extinguishing media:       Dry chemical, foam, water spray, carbon dioxide.         Hazardous combustion products:       These products include: Carbon oxide         Other specific hazards:       Wear self-contained breathing apparatus if possible.         6. ACCIDENTAL RELEASE MEASURES       Use personal protective equipment. Keep people away from and upwind of spillfleak. Entry to non-involved personnel should be controlled around the leakage area by roong off, etc. Pervent medical for containem ang visco of outs in throng antipyt container, taking care not to disperse it. Adhered or collected matterial for antipyt dispused of, na coordaine with appropriate laws and regulations.         Precautions for safe handing:       Harding is performed in a well ventilisted place. Mear suitable protective equipment. Keep people away from and upwind of spillfleak. Entry to non-involved p   | Description of first aid measures        |  |  |  |  |
| Skin contact:       Remove/Take off immediately all contaminated clothing. Cently uses hive lipetry of scap and water. If skin irritation or rank occurs: Cet medical advice/attention.         Eye contact:       Rinse cauliously with water for several minutes. Remove contact lenses, if present and easy to do. Continue minsing, if eye irritation presists: Get medical advice/attention.         Symptoms/effects:       Acute:       Redness.         Acute:       Redness.       Redness.         Dispract       No data available       No data available         Indication of any immediate medical attention:       Not data available       Not data available         Strike available       Set medical advice/attention if any immediate medical attention:       Not data available         Strike available       Set medical form, water spray, carbon dioxide.       Hazardous combustion products:         Closed containers may explode from heat of a fire.       Advice for firefighters:       Wear self-contained breasting apparatus if possible.         6. ACCIDENTAL RELEASE MEASURES       Prevent product from entering drains.       Prevent product from entering drains.         Personal procedutors.       Prevent product from entering drains.       Prevent product from entering drains.         Retrike and metrals for containers       Sweep dust to collect it into an airph container, taking care not to disperse it. Adhered or collect material should be promptly disposed of. In accordance with appropriet lews and regulations. <td>Inhalation:</td> <td></td>   | Inhalation:                              |  |  |  |  |
| kin iritation or rash occurs: Get medical advice/attention. Rev contact: Rev contac | Skin contact:                            |  |  |  |  |
| Ingestion:       Continue rinsing, if eye irritation persists: Get medical advice/attention.         Ingestion:       Get medical advice/attention if you feel unwell. Rinse mouth.         Symptoms/effects::       Acute:         Acute:       Redness.         Delayed:       No data available         Indication of any immediate medical attention:       No data available         Notes to physician:       No data available         Notes to physician:       Conductors         Notes to physician:       Dry chemical, foam, water spray, carbon oxides         Chitable extinguishing media:       Dry chemical, foam, water spray, carbon oxides         Chemical formations:       Clease containers may explode from heat of a fire.         Advice for firefighters:       Wear self-contained breathing apparatus if possible.         6. ACCIDENTAL RELEASE MEASURES       Use personal protective equipment. Keep paople away from and upwind of spill/leak. Entry to equipment and areirals for containmer.         Wehods and mergency procedures:       non-involved personnel should be controlled around the leakage area by roping off, etc.         Prevent product from entering drains.       Prevent product from entering drains.         Wehods and materials for containmer.       See for outsine, reserver way from incompany disposed of, in accordance with appropriate laws and regulations.         7. HANDLING AND STORAGE       Precautions for safe handling   | okin contact.                            | skin irritation or rash occurs: Get medical advice/attention.  |  |  |  |
| Ingestion:         Get medical advice/attention if you feel unwell. Rinse mouth.           Symptoms/effects:         Acute:         Redness.           Delayed:         No data available           Indication of any immediate medical attention:         No data available           Not available.         No data available           Suitable extinguishing media:         Dry chemical, foam, water spray, carbon dioxide.           Hazardous combustion products:         These products include: Carbon oxides           Other specific hazards:         Closed containers may explode from heat of a fire.           Advice for firefighters:         Wear self-contained breathing apparatus if possible.           6. ACCIDENTAL RELEASE MEASURES         Use personal protective equipment. Keep people away from and upwind of splil/leak. Entry to equipment and emergency procedures: non-involved personal end fains.           Methods and mergency procedures:         Prevent product file on antight container, taking care not to disperse it. Adhered or collected material stor containment           Sweed public collar advice and contain or a well wentilated place. Wear suitable protective equipment. Prevent product from entering drains.           7. HANDLING AND STORAGE         Prevent product for a nerosol will be generated. Avoid contait wit, king, eare not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.           7. HANDLING AND STORAGE         Prevent product in a well wentilat  | Eye contact:                             |  |  |  |  |
| Actue:         Redness.           Delayed:         No data available           Indication of any immediate medical attention:         No data available           Not available.         No data available           Stratable extinguishing media:         Dry chemical, foam, water spray, carbon dioxide.           Hazardous combustion products:         These products include: Carbon oxides           Other specific hazards:         Closed containers may explode from heat of a fire.           Advice for firefighters:         Wear self-contained breathing apparatus if possible.           6. ACCIDENTAL RELEASE MEASURES         Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to nori-involved personal protective equipment and emergency procedures:           Prevent product from meriering drains.         No explantable be controlled around the leakage area by roping off, etc.           Environmental precautions, protective equipment depresonal protective equipment. Keep people away from and upwind of spill/leak. Entry to nori-involved personal protective equipment. Keep people area by roping off, etc.           Retivora martal precautions, includie:         Drevent product from meriering drains.           Methods and materials for containment         Sweep dust to collect if into an aritight container, taking care not to disperse it. Adhered or collected and cleaning up:           Reclutions for safe handling:         Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dis   | Ingestion:                               | Continue rinsing. If eye irritation persists: Get medical advice/attention.<br>Get medical advice/attention if you feel unwell. Rinse mouth. |  |  |  |
| Actue:         Redness.           Delayed:         No data available           Indication of any immediate medical attention:         No data available           Not available.         No data available           Stratable extinguishing media:         Dry chemical, foam, water spray, carbon dioxide.           Hazardous combustion products:         These products include: Carbon oxides           Other specific hazards:         Closed containers may explode from heat of a fire.           Advice for firefighters:         Wear self-contained breathing apparatus if possible.           6. ACCIDENTAL RELEASE MEASURES         Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to nori-involved personal protective equipment and emergency procedures:           Prevent product from meriering drains.         No explantable be controlled around the leakage area by roping off, etc.           Environmental precautions, protective equipment depresonal protective equipment. Keep people away from and upwind of spill/leak. Entry to nori-involved personal protective equipment. Keep people area by roping off, etc.           Retivora martal precautions, includie:         Drevent product from meriering drains.           Methods and materials for containment         Sweep dust to collect if into an aritight container, taking care not to disperse it. Adhered or collected and cleaning up:           Reclutions for safe handling:         Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dis   | Symptoms/effects:                        |  |  |  |  |
| Indication of any immediate medical attention:<br>Note available.<br>Notes to physician:<br>No data available<br>5. FIRE-FIGHTING MEASURES<br>Suitable extinguishing media: Dry chemical, foam, water spray, carbon dioxide.<br>Hazardous combustion products: These products include: Carbon oxides<br>Other specific hazards: Closed containers may explode from heat of a fire.<br>Advice for firefighters: Wear self-contained breathing apparatus if possible.<br>6. ACCIDENTAL RELEASE MEASURES<br>Personal procedures: Use personal protective equipment. Keep people away from and upwind of spil/leak. Entry to<br>equipment and emergency procedures: Prevent product from entering drains.<br>Methods and materials for containment<br>Sweep dust to collect if into an articipht container, taking care not to disperse it. Adhered or collected<br>material should be promptly disposed of, in accordance with appropriate laws and regulations.<br>7. HANDLING AND STORAGE<br>Precautions for safe handling: Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent<br>dispersion of dust. Wash hands and face thoroughly after handling.<br>Use a local exhaust if dust or aerosol will be generated.<br>Avoid contact with skin, eyes and clothing.<br>Conditions for safe storage, including any incompatibilities<br>Storage conditions: Keep container tightly closed. Store in a cool and dark place.<br>Storage conditions: Keep container tightly closed. Store is a cool and dark place.<br>Storage a profile termine controls: Follow safe industrial engineering/faboratory practices when handling any chemical. Install a closed<br>system or local exhaust as possible so that workers should not be exposed directly. Also install safety<br>shower and eye bath.<br>Personal protectione equipment<br>Respiratory protection: Dust respirator. Follow local and national regulations.<br>Hand protection: Stafety glasses. A face-shield, if the situation requires.  |  | Redness.   |  |  |  |
| Not available.<br>Notes to physician:<br>No data available<br>S. FIRE-FIGHTING MEASURES<br>Suitable extinguishing media: Dry chemical, foam, water spray, carbon dioxide.<br>Hazardous combustion products: These products include: Carbon oxides<br>Other specific hazards: Closed containers may explode from heat of a fire.<br>Advice for firefighters: Wear self-contained breathing apparatus if possible.<br>6. ACCIDENTAL RELEASE MEASURES<br>Personal precautions, protective<br>equipment and emergency procedures: One-involved personnel should be controlled around the leakage area by roping off, etc.<br>Priven product from entering drains.<br>Methods and materials for containment<br>and cleaning up: Sweep dust to collect if into an airlight container, taking care not to disperse it. Adhered or collected<br>material should be promptly disposed of, in accordance with appropriate laws and regulations.<br>7. HANDLING AND STORAGE<br>Precautions for safe storage, including any incompatibilities<br>Storage conditions: Keep container lightly closes. Store aroos ol and dark place.<br>Store away from incompatibile materials such as oxidizing agents.<br>Comply with laws.<br>8. EXPOSURE CONTROLS / PERSONAL PROTECTION<br>Appropriate engineering controls: Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed<br>system or local exhaust as a possible so that workers should not be exposed directly. Also install safety<br>shower and eye bath.<br>Personal protective equipment<br>Respiratory protection: Dust respirator. Follow local and national regulations.<br>Hand protection: Stare storage, including given spirator. Follow local and national regulations.<br>Hand protection: Stare storage and eye bath.  | Delayed:                                 | No data available  |  |  |  |
| Notes of physician:<br>No data available         Section 2012           S. FIRE-FIGHTING MEASURES         Dry chemical, foam, water spray, carbon dioxide.           Suitable extinguishing media:         Dry chemical, foam, water spray, carbon dioxide.           Hazardous combustion products:         These products include: Carbon oxides<br>Other specific hazards:           Advice for firefighters:         Wear self-contained breathing apparatus if possible.           6. ACCIDENTAL RELEASE MEASURES         Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to<br>equipment and emergency procedures:<br>non-involved personnel should be controlled around the leakage area by roping off, etc.<br>Prevent product from entering drains.           Wethods and materials for containment<br>Methods and materials for containment<br>and cleaning up:         Use personal protective equipment, taking care not to disperse it. Adhered or collect at<br>material should be promptly disposed of, in accordance with appropriate laws and regulations.           7. HANDLING AND STORAGE         Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent<br>dispersion of dust. Wash hands and face thoroughly after handling.<br>Use a local exhaust if dust or aerosol will be generated.<br>Avoid contact with skin, eyes and obthing.           Conditions for safe storage, including any incompatibilities<br>Storage conditions:         Keep container tightly closed. Store in a cool and dark place.<br>Store away from mincompatible materials such as oxidizing agents.           Personal protective equipment<br>Respiratory protection:         Follow safe industrial engineering/laborat  |  | ention:  |  |  |  |
| 5. FIRE-FIGHTING MEASURES         Suitable extinguishing media:       Dry chemical, foam, water spray, carbon dioxide.         Hazardous combustion products:       These products include: Carbon oxides         Other specific hazards:       Closed containers may explode from heat of a fire.         Advice for firefighters:       Wear self-contained breathing apparatus if possible.         6. ACCIDENTAL RELEASE MEASURES       Use personal protective equipment. Keep people away from and upwind of split/leak. Entry to equipment and emergency procedures:         Personal precautions, protective       Use personal protective equipment. Keep people away from and upwind of split/leak. Entry to equipment and metergency procedures:         Prevent product from entering drains.       Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.         7. HANDLING AND STORAGE       Precautions for safe handling:       Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a local exhaust if dust or aerosol will be generated. Avoid contait with skin, eyes and dothing.         Conditions for safe storage, including any incompatibilities       Storage conditions:       Storage conditions.         Packaging material:       Comply with laws.       Comply with laws.       Storage conditions:         8. EXPOSURE CONTROLS / PERSONAL PROTECTION   | Notes to physician:                      |  |  |  |  |
| Suitable extinguishing media:       Dry chemical, foam, water spray, carbon dioxide.         Hazardous combustion products:       These products include: Carbon oxides         Other specific hazards:       Closed containers may explode from heat of a fire.         Advice for firefighters:       Wear self-contained breathing apparatus if possible.         (6. ACCIDENTAL RELEASE MEASURES       Use personal protective equipment and emergency procedures: on-involved personnel should be controlled around the leakage area by roping off, etc.         Personal precautions:       on-involved personnel should be controlled around the leakage area by roping off, etc.         Provent products:       Sweep dust to collect it the in an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.         7. HANDLING AND STORAGE       Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughy after handling. Use a local exhaust if dust or acrosol will be generated. Avoid container tightly closed. Store in a cool and dark place. Store away from incompatibilities         Storage conditions:       Keep container tightly closed. Store in a coil and dark place. Store away from incompatibile materials such as oxidizing agents.         Ø. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed systerm or local exhaust as possible so that work  | No data available                        |  |  |  |  |
| Suitable extinguishing media:       Dry chemical, foam, water spray, carbon dioxide.         Hazardous combustion products:       These products include: Carbon oxides         Other specific hazards:       Closed containers may explode from heat of a fire.         Advice for firefighters:       Wear self-contained breathing apparatus if possible.         (6. ACCIDENTAL RELEASE MEASURES       Use personal protective equipment and emergency procedures: on-involved personnel should be controlled around the leakage area by roping off, etc.         Personal precautions:       on-involved personnel should be controlled around the leakage area by roping off, etc.         Provent products:       Sweep dust to collect it in on airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.         7. HANDLING AND STORAGE       Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughy after handling. Use a local exhaust if dust or acrosol will be generated. Avoid container tightly closed. Store in a cool and dark place. Store away from incompatibilities         Storage conditions:       Keep container tightly closed. Store in a coil and dark place. Store away from incompatibile materials such as oxidizing agents.         (8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers   | 5. FIRE-FIGHTING MEASURES                | ]  |  |  |  |
| Hazardous combustion products:       These products include: Carbon oxides<br>Other specific hazards:       Closed containers may explode from heat of a fire.         Advice for firefighters:       Wear self-contained breathing apparatus if possible.         (6. ACCIDENTAL RELEASE MEASURES         Personal precautions, protective<br>equipment and emergency procedures:<br>Environmental precautions:       Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to<br>ono-involved personnel should be controlled around the leakage area by roping off, etc.<br>Prevent product from entering drains.         Methods and materials for containment<br>and cleaning up:       Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected<br>material should be promptly disposed of, in accordance with appropriate laws and regulations.         [7. HANDLING AND STORAGE       Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent<br>dispersion of dust. Wash hands and face thoroughly after handling.<br>Use a local exhaust if dust or aerosol will be generated.<br>Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities<br>Storage conditions:       Keep container tightly closed. Store in a cool and dark place.<br>Store away from incompatible materials such as oxidizing agents.<br>Packaging material:         [8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed<br>system or local exhaust as possible so that workers should not be exposed directly. Also install safety   |  |  |  |  |  |
| Other specific hazards:       Closed containers may explode from heat of a fire.         Advice for firefighters:       Wear self-contained breathing apparatus if possible.         (6. ACCIDENTAL RELEASE MEASURES         Personal precautions, protective equipment and emergency procedures:         Environmental precautions:         Methods and materials for containment and control of the second and cleaning up:         Methods and materials for containment and cleaning up:         Image: Storage conditions:         Versent product from entering drains.         Precautions for safe handling:         Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling.         Use a local exhaust if dust or aerosol will be generated.         Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities         Storage conditions:       Keep container tightly closed. Store in a cool and dark place.         Storage conditions:       Comply with laws.         (8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protection:       Dust respirator. Follow local   | Suitable extinguishing media:            | Dry chemical, foam, water spray, carbon dioxide.   |  |  |  |
| Advice for firefighters:       Wear self-contained breathing apparatus if possible.         6. ACCIDENTAL RELEASE MEASURES         Personal precautions, protective equipment and emergency procedures:       Use personnal protective equipment. Keep people away from and upwind of spill/leak. Entry to enon-involved personnel should be controlled around the leakage area by roping off, etc. Provent product from entering drains.         Methods and materials for containment and emergency procedures:       Use personnal protective equipment. Keep people away from and upwind of spill/leak. Entry to enon-involved personnel should be controlled around the leakage area by roping off, etc. Provent product from entering drains.         Methods and materials for containment and emergency product from entering drains.       Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.         Z. HANDLING AND STORAGE       Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities       Keep container tightly closed. Store in a cool and dark place. Store away from incompatible materials such as oxidizing agents. Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed sy   | Hazardous combustion products:           | These products include: Carbon oxides  |  |  |  |
| 6. ACCIDENTAL RELEASE MEASURES         Personal precautions, protective<br>equipment and emergency procedures:<br>Invironmental precautions:       Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to<br>non-involved personnel should be controlled around the leakage area by roping off, etc.<br>Prevent product from entering drains.         Methods and materials for containment<br>and cleaning up:       Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to<br>non-involved personnel should be controlled around the leakage area by roping off, etc.<br>Prevent product from entering drains.         Z. HANDLING AND STORAGE       Sweep dust to collect it into an airlight container, taking care not to disperse it. Adhered or collected<br>material should be promptly disposed of, in accordance with appropriate laws and regulations.         Z. HANDLING AND STORAGE       Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent<br>dispersion of dust. Wash hands and face thoroughly after handling.<br>Use a local exhaust if dust or aerosol will be generated.<br>Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities<br>Storage conditions:       Keep container tightly closed. Store in a cool and dark place.<br>Store away from incompatible materials such as oxidizing agents.<br>Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed<br>system or local exhaust as possible so that workers should not be exposed directly. Also install safety<br>shower and eye bath.   | Other specific hazards:                  | Closed containers may explode from heat of a fire.   |  |  |  |
| Personal precautions, protective<br>equipment and emergency procedures:<br>Environmental precautions:       Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to<br>non-involved personnel should be controlled around the leakage area by roping off, etc.<br>Prevent product from entering drains.         Methods and materials for containment<br>and cleaning up:       Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected<br>material should be promptly disposed of, in accordance with appropriate laws and regulations. <i>7. HANDLING AND STORAGE</i> Precautions for safe handling:       Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent<br>dispersion of dust. Wash hands and face thoroughly after handling.<br>Use a local exhaust if dust or aerosol will be generated.<br>Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities<br>Storage conditions:       Keep container tightly closed. Store in a cool and dark place.<br>Store away from incompatibile materials such as oxidizing agents.<br>Comply with laws. <i>8. EXPOSURE CONTROLS / PERSONAL PROTECTION</i> Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed<br>system or local exhaust as possible so that workers should not be exposed directly. Also install safety<br>shower and eye bath.         Personal protection:       Dust respirator. Follow local and national regulations.<br>Protective gloves.<br>Eye protection:  | Advice for firefighters:                 | Wear self-contained breathing apparatus if possible.   |  |  |  |
| equipment and emergency procedures:       non-involved personnel should be controlled around the leakage area by roping off, etc.         Environmental precautions:       Prevent product from entering drains.         Methods and materials for containment       Seep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.         Z. HANDLING AND STORAGE       Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities       Store away from incompatible materials such as oxidizing agents.         Packaging material:       Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protection:       Dust respirator. Follow local and national regulations.         Hand protection:       Protective gloves.         Eye protection:       Safety glasses. A face-shield, if the situation requires.   | 6. ACCIDENTAL RELEASE MEASU              | RES  |  |  |  |
| equipment and emergency procedures:       non-involved personnel should be controlled around the leakage area by roping off, etc.         Environmental precautions:       Prevent product from entering drains.         Methods and materials for containment       Seep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.         Z. HANDLING AND STORAGE       Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities       Store away from incompatible materials such as oxidizing agents.         Packaging material:       Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protection:       Dust respirator. Follow local and national regulations.         Hand protection:       Protective gloves.         Eye protection:       Safety glasses. A face-shield, if the situation requires.   | Personal precautions, protective         | Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to  |  |  |  |
| Methods and materials for containment and cleaning up:       Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.         7. HANDLING AND STORAGE       Image: The transmission of dust. Wash hands and face thoroughly after handling. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities       Keep container tightly closed. Store in a cool and dark place. Store away from incompatibile materials such as oxidizing agents. Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protective equipment       Respiratory protection:         Respiratory protection:       Dust respirator. Follow local and national regulations. Hand protection:         Hand protection:       Safety glasses. A face-shield, if the situation requires.  | equipment and emergency procedures:      | non-involved personnel should be controlled around the leakage area by roping off, etc.  |  |  |  |
| and cleaning up:       material should be promptly disposed of, in accordance with appropriate laws and regulations.         7. HANDLING AND STORAGE         Precautions for safe handling:       Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities       Storage conditions:         Storage conditions:       Keep container tightly closed. Store in a cool and dark place. Store away from incompatible materials such as oxidizing agents. Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protective equipment       Respiratory protection:         Respiratory protection:       Dust respirator. Follow local and national regulations. Hand protection:         Hand protection:       Safety glasses. A face-shield, if the situation requires.   |  |  |  |  |  |
| Precautions for safe handling:       Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities       Storage conditions:       Keep container tightly closed. Store in a cool and dark place. Store away from incompatible materials such as oxidizing agents.         Packaging material:       Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protective equipment       Respiratory protection:         Respiratory protection:       Dust respirator. Follow local and national regulations. Hand protection:         Hand protection:       Safety glasses. A face-shield, if the situation requires.  | and cleaning up:                         |  |  |  |  |
| Precautions for safe handling:       Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities       Storage conditions:       Keep container tightly closed. Store in a cool and dark place. Store away from incompatible materials such as oxidizing agents.         Packaging material:       Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protective equipment       Respiratory protection:         Respiratory protection:       Dust respirator. Follow local and national regulations. Hand protection:         Hand protection:       Safety glasses. A face-shield, if the situation requires.  |  |  |  |  |  |
| dispersion of dust. Wash hands and face thoroughly after handling.<br>Use a local exhaust if dust or aerosol will be generated.<br>Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities<br>Storage conditions:       Keep container tightly closed. Store in a cool and dark place.<br>Store away from incompatible materials such as oxidizing agents.<br>Comply with laws.         Packaging material:       Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed<br>system or local exhaust as possible so that workers should not be exposed directly. Also install safety<br>shower and eye bath.         Personal protective equipment<br>Respiratory protection:       Dust respirator. Follow local and national regulations.<br>Hand protection:         Protective gloves.<br>Eye protection:       Safety glasses. A face-shield, if the situation requires.   | 7. HANDLING AND STORAGE                  |  |  |  |  |
| dispersion of dust. Wash hands and face thoroughly after handling.<br>Use a local exhaust if dust or aerosol will be generated.<br>Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities<br>Storage conditions:       Keep container tightly closed. Store in a cool and dark place.<br>Store away from incompatible materials such as oxidizing agents.<br>Comply with laws.         Packaging material:       Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed<br>system or local exhaust as possible so that workers should not be exposed directly. Also install safety<br>shower and eye bath.         Personal protective equipment<br>Respiratory protection:       Dust respirator. Follow local and national regulations.<br>Hand protection:         Protective gloves.<br>Eye protection:       Safety glasses. A face-shield, if the situation requires.   | Precautions for safe handling:           | Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent  |  |  |  |
| Avoid contact with skin, eyes and clothing.         Conditions for safe storage, including any incompatibilities         Storage conditions:       Keep container tightly closed. Store in a cool and dark place.<br>Store away from incompatible materials such as oxidizing agents.         Packaging material:       Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protective equipment       Respiratory protection:         Respiratory protection:       Dust respirator. Follow local and national regulations.         Hand protection:       Protective gloves.         Eye protection:       Safety glasses. A face-shield, if the situation requires.   | Jan  | dispersion of dust. Wash hands and face thoroughly after handling.   |  |  |  |
| Conditions for safe storage, including any incompatibilities       Storage conditions:       Keep container tightly closed. Store in a cool and dark place.<br>Store away from incompatible materials such as oxidizing agents.<br>Comply with laws.         Packaging material:       Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protective equipment       Dust respirator. Follow local and national regulations.         Hand protection:       Protective gloves.         Eye protection:       Safety glasses. A face-shield, if the situation requires.  |  |  |  |  |  |
| Storage conditions:       Keep container tightly closed. Store in a cool and dark place.<br>Store away from incompatible materials such as oxidizing agents.<br>Comply with laws.         B. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed<br>system or local exhaust as possible so that workers should not be exposed directly. Also install safety<br>shower and eye bath.         Personal protective equipment<br>Respiratory protection:<br>Hand protection:       Dust respirator. Follow local and national regulations.<br>Protective gloves.<br>Eye protection:         Safety glasses. A face-shield, if the situation requires.       Safety glasses. A face-shield, if the situation requires.   | Conditions for safe storage, including a |  |  |  |  |
| Packaging material:       Comply with laws.         8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protective equipment       Dust respirator. Follow local and national regulations.         Hand protection:       Protective gloves.         Eye protection:       Safety glasses. A face-shield, if the situation requires.   |  |  |  |  |  |
| 8. EXPOSURE CONTROLS / PERSONAL PROTECTION         Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protective equipment       Dust respirator. Follow local and national regulations.         Hand protection:       Protective gloves.         Eye protection:       Safety glasses. A face-shield, if the situation requires.   | Packaging material                       |  |  |  |  |
| Appropriate engineering controls:       Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protective equipment       Expiratory protection:         Dust respirator. Follow local and national regulations.       Protective gloves.         Eye protection:       Safety glasses. A face-shield, if the situation requires.  |  |  |  |  |  |
| Personal protective equipment       System or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protective equipment       Dust respirator. Follow local and national regulations.         Hand protection:       Protective gloves.         Eye protection:       Safety glasses. A face-shield, if the situation requires.   | 8. EXPOSURE CONTROLS / PERSO             | ONAL PROTECTION  |  |  |  |
| Personal protective equipment       System or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.         Personal protective equipment       Dust respirator. Follow local and national regulations.         Hand protection:       Protective gloves.         Eye protection:       Safety glasses. A face-shield, if the situation requires.   |  |  |  |  |  |
| Personal protective equipment         Respiratory protection:         Hand protection:         Eye protection:         Safety glasses.         A face-shield, if the situation requires.   | Appropriate engineering controls:        |  |  |  |  |
| Respiratory protection:Dust respirator. Follow local and national regulations.Hand protection:Protective gloves.Eye protection:Safety glasses. A face-shield, if the situation requires.   |  |  |  |  |  |
| Respiratory protection:Dust respirator. Follow local and national regulations.Hand protection:Protective gloves.Eye protection:Safety glasses. A face-shield, if the situation requires.   | Personal protective continuent           |  |  |  |  |
| Hand protection:Protective gloves.Eye protection:Safety glasses. A face-shield, if the situation requires.   |  | Dust respirator. Follow local and national regulations   |  |  |  |
| Eye protection: Safety glasses. A face-shield, if the situation requires.  |  |  |  |  |  |
|  | Eye protection:                          | •  |  |  |  |
|  | Skin and body protection:                | Protective clothing. Protective boots, if the situation requires.  |  |  |  |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| Physical state (20°C):<br>Form:<br>Colour:<br>Odour:<br>Odor threshold:<br>Odour threshold:  | Solid<br>Crystal - Powder<br>Pale gray - Reddish gray<br>No data available<br>No data available<br>No data available   |   |  |
|--|--|---|--|
| Melting point/freezing point:<br>Boiling point/range:<br>Decomposition temperature:<br>Relative density:<br>Kinematic viscosity:<br>Log Pow: | 278°C (532°F)<br>No data available<br>No data available<br>No data available<br>No data available<br>No data available | pH:<br>Vapour pressure:<br>Vapour density:<br>Dynamic Viscosity:<br>Evaporation rate(Butyl<br>Acetate=1): | No data available<br>No data available.<br>No data available<br>No data available<br>No data available |
| Flash point:<br>Flammability(solid, gas):  | No data available<br>No data available   | Autoignition temperature:<br>Flammability or explosive limits:<br>Lower:<br>Upper:                        | No data available<br>No data available<br>No data available  |
| Solubility(ies):<br>[Water]<br>[Other solvents]<br>Soluble:  | No data available<br>Dimethylformamide(DMF),   |   |  |

## **10. STABILITY AND REACTIVITY**

Reactivity: Chemical stability: Possibility of hazardous reactions: Incompatible materials: Hazardous decomposition products: No data available Stable under proper conditions. No special reactivity has been reported. Oxidizing agents Carbon dioxide, Carbon monoxide

## 11. TOXICOLOGICAL INFORMATION

#### RTECS Number: GN6384500

Acute Toxicity: ipr-rat LD50:5130 mg/kg

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

### **Respiratory or skin sensitization:** No data available

Germ cell mutagenicity: No data available

Carcinogenicity: No data available

IARC: No data available

**Reproductive toxicity:** No data available

Target organ(s):

No data available

NTP:

orl-mus LD50:3200 mg/kg

No data available

**OSHA:** No data available

# 12. ECOLOGICAL INFORMATION

| Ecotoxicity:  |   |
|---|---|
| Fish:   | No data available   |
| Crustacea:  | No data available   |
| Algae:  | No data available   |
| Persistence / degradability:                        | No data available   |
| Bioaccumulative potential(BCF):<br>Mobility in soil | No data available   |
| Log Pow:  | No data available   |
| Soil adsorption (Koc):                              | No data available   |
| Henry's Law (PaM ³/mol):                            | No data available   |
|   |   |
| 13. DISPOSAL CONSIDERATIONS                         |   |
| Disposal of product:                                | Recycle to process if possible. It is the generator's responsibility to comply with Federal, State and Local rules and regulations. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. This section is intended to provide assistance but does not replace these laws, nor does compliance in accordance with this section ensure regulatory compliance according to the law. US EPA guidelines for Identification and Listing of Hazardous Waste are listed in 40 CFR Parts 261. The product should not be allowed to enter the environment, drains, water ways, or the soil. |
| Disposal of container:                              | Dispose of as unused product. Do not re-use empty containers.   |
| Other considerations:                               | Observe all federal, state and local regulations when disposing of the substance.   |
|   |   |
| 14. TRANSPORT INFORMATION                           |   |
| DOT (US)  | Non-hazardous for transportation.   |

1

0 0

D Non-hazardous for transportation. <u>IATA</u> IMDG Non-hazardous for transportation.

# 15. REGULATORY INFORMATION

Toxic Substance Control Act (TSCA 8b.): This product is ON the EPA Toxic Substances Control Act (TSCA) inventory.

| <u>US Federal Regulations</u><br>CERCLA Hazardous substance and Reportable Quantity: |            |            |                      |  |  |  |
|--|------------|------------|----------------------|--|--|--|
| SARA 313:  |            | Not Listed |                      |  |  |  |
| SARA 302:  |            | Not Listed |                      |  |  |  |
| State Regulations  | <u>5</u>   |            |                      |  |  |  |
| State Right-to-Kn  | ow         |            |                      |  |  |  |
| Massachuset  | ts         | Not Listed |                      |  |  |  |
| New Jersey   |            | Not Listed |                      |  |  |  |
| Pennsylvania   | ı          | Not Listed |                      |  |  |  |
| California Propos  | sition 65: | Not Listed |                      |  |  |  |
| Other Information  | <u>ı</u>   |            |                      |  |  |  |
| NFPA Rating:   |            |            | HMIS Classification: |  |  |  |
| Health:  | 1          |            | Health:              |  |  |  |
| Flammability:  | 0          |            | Flammability:        |  |  |  |
| Instability:   | 0          |            | Physical:            |  |  |  |
| International Inventories  |            |            |                      |  |  |  |
| Canada: NDSL   |            | On NDSL    |                      |  |  |  |
| EC-No:   |            | 208-470-0  |                      |  |  |  |

## 16. OTHER INFORMATION

#### Revision date: 07/06/2018 Revision number: 1

TCI chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its affiliates or 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 chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our SDS are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated SDS for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, face mask, fume hood). For proper handling and disposal, always comply with federal, state and local regulations.