

## SAFETY DATA SHEET

### 1. Identification

| Product identifier              | SIS Formula SIC-1, 190 Proof                |             |
|---------------------------------|---|-------------|
| Other means of identification   | None.                                       |             |
| Recommended use                 | General purpose solvent.                    |             |
| <b>Recommended restrictions</b> | Use in accordance with manufacturer's recom | mendations. |
| Manufacturer/Importer/Supplier/ | Distributor information                     |             |
| Company Name                    | Greenfield Global USA Inc.                  |             |
| Address                         | 1101 Isaac Shelby Drive                     |             |
|                                 | Shelbyville, KY 40065                       |             |
|                                 | USA   |             |
| Telephone                       | 502.232.7600                                |             |
| Fax                             | 502.633.6100                                |             |
|                                 |   |             |
| Company Name                    | Greenfield Global USA Inc.                  |             |
| Address                         | 58 Vale Road                                |             |
|                                 | Brookfield, CT 06804                        |             |
|                                 | USA   |             |
| Telephone                       | 203.740.3471                                |             |
| Fax                             | 203.740.3481                                |             |
|                                 |   |             |
| Emergency phone number          |   |             |
| USA                             | CHEMTREC: 1.800.424.9300 (CCN 17213)        |             |
| International                   | CHEMTREC: +1.703.527.3887 (CCN 17213)       |             |
| 2. Hazard(s) identification     |   |             |
| Physical hazards                | Flammable liquids                           | Category 2  |
| Health hazards                  | Serious eye damage/eye irritation           | Category 2  |
|                                 | Carcinogenicity                             | Category 2  |

**OSHA** defined hazards

Label elements



Signal word Hazard statement

Highly flammable liquid and vapor. Causes serious eye irritation. Suspected of causing cancer. Causes damage to organs (central nervous system, optic nerve).

Specific target organ toxicity, single exposure Category 1 (central nervous system, optic

nerve)

#### Precautionary statement Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Not classified.

| Response                                     | If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.<br>If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and<br>easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If exposed:<br>Call a poison center/doctor. In case of fire: Use appropriate media to extinguish. |
|--|--|
| Storage                                      | Store in a well-ventilated place. Keep cool. Store locked up.  |
| Disposal                                     | Dispose of contents/container in accordance with local/regional/national/international regulations.  |
| Hazard(s) not otherwise<br>classified (HNOC) | None known.  |
| Supplemental information                     | None.  |

## 3. Composition/information on ingredients

Mixtures

| Chemical name  |   | CAS number  | %   |
|--|---|---|---|
| Ethyl alcohol  |   | 64-17-5   | 85.40 - 90.49   |
| Ethyl acetate  |   | 141-78-6  | 4.04 - 4.70   |
| Methanol   |   | 67-56-1   | 4.50 - 4.52   |
| 2-Pentanone, 4-methyl-   |   | 108-10-1  | 0.90 - 0.95   |
| Water  |   | 7732-18-5   | 0.00 - 5.60   |
| Composition comments   | All concentrations are in percent by weight un  | nless otherwise indicated.  |   |
| 4. First-aid measures  |   |   |   |
| Inhalation   | Move to fresh air. Call a physician if sympton  | ns develop or persist.  |   |
| Skin contact   | Take off immediately all contaminated clothir attention if irritation develops and persists.  | • •   | ower. Get medical   |
| Eye contact  | Immediately flush eyes with plenty of water for present and easy to do. Continue rinsing. Ge  |   |   |
| Ingestion  | IF SWALLOWED: Immediately call a POISC<br>induce vomiting without advice from poison of<br>that stomach content doesn't get into the lung<br>ingested the substance. Induce artificial resp<br>one-way valve or other proper respiratory me | ON CENTER or doctor/physi<br>control center. If vomiting oc<br>gs. Do not use mouth-to-mo<br>iration with the aid of a poch | cian. Rinse mouth. Do<br>curs, keep head low s<br>outh method if victim |
| Most important<br>symptoms/effects, acute and<br>delayed                     | Narcosis. Headache. Behavioral changes. De<br>Symptoms may include stinging, tearing, red<br>Methanol: Human exposure to methanol may<br>nerve damage and perhaps death, after bein<br>Death due to cardiac or respiratory failure ha       | ness, swelling, and blurred<br>/ result in illness, systemic p<br>g ingested, absorbed throug                               | vision. Coughing.<br>poisoning, blindness, o<br>gh the skin or inhaled. |
| Indication of immediate<br>medical attention and special<br>treatment needed | as little as 30 ml.<br>Provide general supportive measures and tre<br>immediately. While flushing, remove clothes<br>ambulance. Continue flushing during transpo<br>Symptoms may be delayed.  | which do not adhere to affe   | cted area. Call an  |
| General information  | Take off all contaminated clothing immediate<br>advice/attention. If you feel unwell, seek med<br>that medical personnel are aware of the mate<br>themselves. Wash contaminated clothing bef<br>in attendance.                              | lical advice (show the label<br>erial(s) involved, and take p   | where possible). Ensu<br>recautions to protect                          |
| 5. Fire-fighting measures  |   |   |   |
| Suitable extinguishing media   | Water fog. Alcohol resistant foam. Dry chemi  | cal powder. Carbon dioxide  | (CO2).  |
| Unsuitable extinguishing media   | Do not use water jet as an extinguisher, as th  | nis will spread the fire.   |   |
| Specific hazards arising from the chemical                                   | Vapors may form explosive mixtures with air.<br>of ignition and flash back. During fire, gases<br>products may include: carbon oxides.  |   |   |
| Special protective equipment and precautions for firefighters                | Self-contained breathing apparatus and full p   | protective clothing must be v   | vorn in case of fire.   |

| Fire fighting<br>equipment/instructions                                   | In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool.   |
|---|--|
| Specific methods  | Use standard firefighting procedures and consider the hazards of other involved materials.   |
| General fire hazards  | Highly flammable liquid and vapor.   |
| 6. Accidental release meas  | sures  |
| Personal precautions,<br>protective equipment and<br>emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.  |
| Methods and materials for containment and cleaning up                     | Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. The product is soluble in water.   |
|   | Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. 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: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. 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. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.   |
| Environmental precautions   | Avoid discharge into drains, water courses or onto the ground.   |
| 7. Handling and storage   |  |
| Precautions for safe handling   | Obtain special instructions before use. Do not handle until all safety precautions have been read<br>and understood. Do not handle, store or open near an open flame, sources of heat or sources of<br>ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation.<br>Take precautionary measures against static discharges. All equipment used when handling the<br>product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not taste or<br>swallow. Avoid contact with eyes. Avoid prolonged exposure. When using, do not eat, drink or<br>smoke. Should be handled in closed systems, if possible. Wear appropriate personal protective<br>equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. |
| Conditions for safe storage,<br>including any incompatibilities           | Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).   |

## 8. Exposure controls/personal protection

#### **Occupational exposure limits**

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components                               | Туре | Value      |  |
|--|------|------------|--|
| 2-Pentanone, 4-methyl-<br>(CAS 108-10-1) | PEL  | 410 mg/m3  |  |
|  |      | 100 ppm    |  |
| Ethyl acetate (CAS<br>141-78-6)          | PEL  | 1400 mg/m3 |  |
|  |      | 400 ppm    |  |
| Ethyl alcohol (CAS 64-17-5)              | PEL  | 1900 mg/m3 |  |
|  |      | 1000 ppm   |  |
| Methanol (CAS 67-56-1)                   | PEL  | 260 mg/m3  |  |
|  |      | 200 ppm    |  |
| US. ACGIH Threshold Limit Values         |      |            |  |
| Components                               | Туре | Value      |  |
| 2-Pentanone, 4-methyl-<br>(CAS 108-10-1) | STEL | 75 ppm     |  |
|  | TWA  | 20 ppm     |  |
|  |      |            |  |

| Components  | Ту  | )e  |  | V   | alue   |  |
|---|---|---|--|---|--|--|
| Ethyl acetate (CAS<br>141-78-6)   | TW  | Ά   |  | 4   | 00 ppm   |  |
| Ethyl alcohol (CAS 64-17-5  | ) ST  | EL  |  | 1   | 000 ppm  |  |
| Methanol (CAS 67-56-1)  | , ST  |   |  |   | 50 ppm   |  |
|   | TW  |   |  |   | 00 ppm   |  |
|   |   |   |  | 2   | oo ppm   |  |
| US. NIOSH: Pocket Guide<br>Components   | to Chemical Hazards   | -   |  | v   | alue   |  |
|   |   |   |  |   |  |  |
| 2-Pentanone, 4-methyl-<br>(CAS 108-10-1)  | ST  | EL  |  | 3   | 00 mg/m3   |  |
|   |   |   |  | 7   | 5 ppm  |  |
|   | TW  | 'A  |  | 2   | 05 mg/m3   |  |
|   |   |   |  | 5   | D ppm  |  |
| Ethyl acetate (CAS<br>141-78-6)   | TW  | 'A  |  | 14  | 400 mg/m3  |  |
|   |   |   |  | 4   | 00 ppm   |  |
| Ethyl alcohol (CAS 64-17-5  | ) TW  | Ά   |  | 1   | 900 mg/m3  |  |
|   |   |   |  | 1   | 000 ppm  |  |
| Methanol (CAS 67-56-1)  | ST  | EL  |  | 32  | 25 mg/m3   |  |
|   |   |   |  | 2   | 50 ppm   |  |
|   | TW  | Ά   |  | 2   | 60 mg/m3   |  |
|   |   |   |  | 2   | 20 222   |  |
| ACGIH Biological Exposu<br>Components   | Value   | Determ  |  | Specimen  | 00 ppm<br>Sampling Time  |  |
| •   |   |   | <b>iinant</b><br>isobutyl  |   |  |  |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-   | Value   | Methyl i  | isobutyl   | Specimen  | Sampling Time  |  |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-<br>(CAS 108-10-1)   | Value<br>1 mg/l<br>15 mg/l  | Methyl i<br>ketone<br>Methan  | isobutyl   | Specimen<br>Urine   | Sampling Time  |  |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-<br>(CAS 108-10-1)<br>Methanol (CAS 67-56-1)   | Value<br>1 mg/l<br>15 mg/l  | Methyl i<br>ketone<br>Methan  | isobutyl   | Specimen<br>Urine   | Sampling Time  |  |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-<br>(CAS 108-10-1)<br>Methanol (CAS 67-56-1)<br>* - For sampling details, ple<br>posure guidelines<br>US - California OELs: Skin   | Value<br>1 mg/l<br>15 mg/l<br>ase see the source do<br>n designation  | Methyl i<br>ketone<br>Methan  | isobutyl   | Specimen<br>Urine   | Sampling Time  |  |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-<br>(CAS 108-10-1)<br>Methanol (CAS 67-56-1)<br>* - For sampling details, ple<br>posure guidelines   | Value<br>1 mg/l<br>15 mg/l<br>ase see the source do<br>n designation<br>1)  | Methyl i<br>ketone<br>Methan<br>ocument.  | isobutyl<br>ol   | Specimen<br>Urine   | Sampling Time<br>*<br>*  |  |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-<br>(CAS 108-10-1)<br>Methanol (CAS 67-56-1)<br>* - For sampling details, ple<br>posure guidelines<br>US - California OELs: Skin<br>Methanol (CAS 67-56-   | Value          1 mg/l         15 mg/l         ase see the source do         n designation         1)         : Skin designation ap         1)   | Methyl i<br>ketone<br>Methan<br>ocument.  | isobutyl<br>ol<br>Can be   | <b>Specimen</b><br>Urine<br>Urine   | Sampling Time * * * ugh the skin.  |  |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-<br>(CAS 108-10-1)<br>Methanol (CAS 67-56-1)<br>* - For sampling details, ple<br>posure guidelines<br>US - California OELs: Skin<br>Methanol (CAS 67-56-<br>US - Minnesota Haz Subs<br>Methanol (CAS 67-56-  | Value          1 mg/l         15 mg/l         ase see the source do         n designation         1)         : Skin designation ap         1)         in designation         1)         1)         1)         1)         1)         1)         1)         1)         1)         1)         1)         1)         1)         1)         1)   | Methyl i<br>ketone<br>Methan<br>ocument.  | isobutyl<br>ol<br>Can be<br>Skin de  | Specimen<br>Urine<br>Urine<br>absorbed thro   | Sampling Time * * ugh the skin. es.  |  |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-<br>(CAS 108-10-1)<br>Methanol (CAS 67-56-1)<br>* - For sampling details, ple<br>posure guidelines<br>US - California OELs: Skin<br>Methanol (CAS 67-56-<br>US - Minnesota Haz Subs<br>Methanol (CAS 67-56-<br>US - Tennessee OELs: Skin<br>Methanol (CAS 67-56-   | Value<br>1 mg/l<br>15 mg/l<br>ase see the source do<br>n designation<br>1)<br>Skin designation ap<br>1)<br>in designation<br>1)<br>it Values: Skin desig<br>1)  | Methyl i<br>ketone<br>Methan<br>ocument.  | isobutyl<br>ol<br>Can be<br>Skin de<br>Can be  | Specimen<br>Urine<br>Urine<br>absorbed thro<br>signation appli  | sampling Time * * ugh the skin. es. ugh the skin.  |  |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-<br>(CAS 108-10-1)<br>Methanol (CAS 67-56-1)<br>* - For sampling details, ple<br>osure guidelines<br>US - California OELs: Skin<br>Methanol (CAS 67-56-<br>US - Minnesota Haz Subs<br>Methanol (CAS 67-56-<br>US - Tennessee OELs: Skin<br>Methanol (CAS 67-56-<br>US ACGIH Threshold Lim<br>Methanol (CAS 67-56-  | Value<br>1 mg/l<br>15 mg/l<br>ase see the source do<br>n designation<br>1)<br>: Skin designation ap<br>1)<br>in designation<br>1)<br>it Values: Skin desig<br>1)<br>to Chemical Hazards   | Methyl i<br>ketone<br>Methan<br>ocument.  | isobutyl<br>ol<br>Can be<br>Skin de<br>Can be<br>Can be  | Specimen<br>Urine<br>Urine<br>absorbed thro<br>signation appli<br>absorbed thro   | sampling Time * * ugh the skin. es. ugh the skin. ugh the skin.  |  |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-<br>(CAS 108-10-1)<br>Methanol (CAS 67-56-1)<br>* - For sampling details, ple<br>osure guidelines<br>US - California OELs: Skin<br>Methanol (CAS 67-56-<br>US - Minnesota Haz Subs<br>Methanol (CAS 67-56-<br>US - Tennessee OELs: Skin<br>Methanol (CAS 67-56-<br>US ACGIH Threshold Lim<br>Methanol (CAS 67-56-<br>US ACGIH Threshold Lim  | Value          1 mg/l         15 mg/l         ase see the source do         n designation         1)         : Skin designation ap         1)         in designation         1)         it Values: Skin desig         1)         to Chemical Hazards         1)         Explosion-proof g         Ventilation rates s         exhaust ventilatio  | Methyl i<br>ketone<br>Methan<br>ocument.<br>oplies<br>nation<br>s<br>eneral and<br>should be m<br>n, or other e<br>exposure li  | isobutyl<br>ol<br>Can be<br>Skin de<br>Can be<br>Can be<br>Can be<br>local exhau<br>latched to<br>engineering<br>imits have  | Specimen<br>Urine<br>Urine<br>absorbed thro<br>signation appli<br>absorbed thro<br>absorbed thro<br>absorbed thro<br>ust ventilation.<br>conditions. If a<br>g controls to m<br>not been estal                        | sampling Time * * ugh the skin. es. ugh the skin. ugh the skin. ugh the skin. ugh the skin. Good general ventilation pplicable, use process er aintain airborne levels be blished, maintain airborne | nclosures, local<br>low recommend                                    |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-<br>(CAS 108-10-1)<br>Methanol (CAS 67-56-1)<br>* - For sampling details, ple<br>posure guidelines<br>US - California OELs: Skin<br>Methanol (CAS 67-56-<br>US - Minnesota Haz Subs<br>Methanol (CAS 67-56-<br>US - Tennessee OELs: Skin<br>Methanol (CAS 67-56-<br>US ACGIH Threshold Lim<br>Methanol (CAS 67-56-<br>US. NIOSH: Pocket Guide<br>Methanol (CAS 67-56-<br>US. NIOSH: Pocket Guide<br>Methanol (CAS 67-56-   | Value          1 mg/l         15 mg/l         ase see the source do         n designation         1)         : Skin designation ap         1)         in designation         1)         it Values: Skin designation         1)         to Chemical Hazards         1)         Explosion-proof g         Ventilation rates s         exhaust ventilatio         exposure limits. If         acceptable level.  | Methyl i<br>ketone<br>Methan<br>ocument.<br>oplies<br>nation<br>s<br>eneral and<br>should be m<br>n, or other e<br>exposure li<br>Provide eye<br>protective                 | isobutyl<br>ol<br>Can be<br>Skin de<br>Can be<br>Can be<br>Can be<br>Iocal exhai<br>iatched to<br>engineering<br>imits have<br>wash stati<br><b>equipmen</b>             | Specimen<br>Urine<br>Urine<br>absorbed thro<br>signation appli<br>absorbed thro<br>absorbed thro<br>absorbed thro<br>ust ventilation.<br>conditions. If a<br>g controls to m<br>not been estal<br>on and safety       | sampling Time * * ugh the skin. es. ugh the skin. ugh the skin. ugh the skin. ugh the skin. Good general ventilation pplicable, use process er aintain airborne levels be blished, maintain airborne | nclosures, local<br>low recommend                                    |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-<br>(CAS 108-10-1)<br>Methanol (CAS 67-56-1)<br>* - For sampling details, ple<br>posure guidelines<br>US - California OELs: Skin<br>Methanol (CAS 67-56-<br>US - Minnesota Haz Subs<br>Methanol (CAS 67-56-<br>US - Tennessee OELs: Ski<br>Methanol (CAS 67-56-<br>US ACGIH Threshold Lim<br>Methanol (CAS 67-56-<br>US. NIOSH: Pocket Guide<br>Methanol (CAS 67-56-<br>US. NIOSH: Pocket Guide<br>Methanol (CAS 67-56-<br>US ACGIH Threshold Lim<br>Methanol (CAS 67-56-<br>US. NIOSH: Pocket Guide<br>Methanol (CAS 67-56-<br>US NIOSH: Pocket Guide<br>Methanol (CAS 67-56-<br>US VIOSH: Pocket Guide | Value          1 mg/l         15 mg/l         ase see the source do         n designation         1)         Skin designation ap         1)         in designation         1)         it Values: Skin designation         1)         it Values: Skin designation         1)         to Chemical Hazards         1)         Explosion-proof g         Ventilation rates s         exhaust ventilatio         exposure limits. If         acceptable level.         s, such as personal   | Methyl i<br>ketone<br>Methan<br>ocument.<br>oplies<br>nation<br>s<br>eneral and<br>should be m<br>n, or other e<br>exposure li<br>Provide eye<br>protective                 | isobutyl<br>ol<br>Can be<br>Skin de<br>Can be<br>Can be<br>Can be<br>Iocal exhai<br>iatched to<br>engineering<br>imits have<br>wash stati<br><b>equipmen</b>             | Specimen<br>Urine<br>Urine<br>absorbed thro<br>signation appli<br>absorbed thro<br>absorbed thro<br>absorbed thro<br>ust ventilation.<br>conditions. If a<br>g controls to m<br>not been estal<br>on and safety       | sampling Time * * ugh the skin. es. ugh the skin. ugh the skin. ugh the skin. ugh the skin. Good general ventilation pplicable, use process er aintain airborne levels be blished, maintain airborne | nclosures, local<br>low recommend                                    |
| ACGIH Biological Exposu<br>Components<br>2-Pentanone, 4-methyl-<br>(CAS 108-10-1)<br>Methanol (CAS 67-56-1)<br>* - For sampling details, ple<br>oosure guidelines<br>US - California OELs: Skin<br>Methanol (CAS 67-56-<br>US - Minnesota Haz Subs<br>Methanol (CAS 67-56-<br>US - Tennessee OELs: Skin<br>Methanol (CAS 67-56-<br>US ACGIH Threshold Lim<br>Methanol (CAS 67-56-<br>US. NIOSH: Pocket Guide<br>Methanol (CAS 67-56-<br>US. NIOSH: Pocket Guide<br>Methanol (CAS 67-56-<br>Distriction measure  | Value          1 mg/l         15 mg/l         ase see the source do         n designation         1)         : Skin designation ap         1)         in designation         1)         : Skin designation         1)         in designation         1)         it Values: Skin desig         1)         to Chemical Hazards         1)         Explosion-proof g         Ventilation rates s         exhaust ventilatio         exposure limits. If         acceptable level.         :s, such as personal         Chemical goggles         Wear appropriate | Methyl i<br>ketone<br>Methan<br>ocument.<br>oplies<br>nation<br>s<br>eneral and<br>should be m<br>n, or other e<br>exposure li<br>Provide eye<br>protective<br>are recommon | isobutyl<br>ol<br>Can be<br>Skin de<br>Can be<br>Can be<br>Can be<br>Iocal exhai<br>iatched to<br>engineering<br>imits have<br>ewash stati<br><b>equipmen</b><br>mended. | Specimen<br>Urine<br>Urine<br>absorbed thro<br>signation appli<br>absorbed thro<br>absorbed thro<br>absorbed thro<br>ust ventilation.<br>conditions. If a<br>g controls to m<br>not been estal<br>on and safety<br>it | sampling Time * * ugh the skin. es. ugh the skin. ugh the skin. ugh the skin. ugh the skin. Good general ventilation pplicable, use process er aintain airborne levels be blished, maintain airborne | elosures, local<br>low recommend<br>levels to an<br>ded by the glove |

| Respiratory protection            | If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Chemical respirator with organic vapor cartridge. |
|-----------------------------------|--|
| Thermal hazards                   | Wear appropriate thermal protective clothing, when necessary.  |
| General hygiene<br>considerations | Observe any medical surveillance requirements. When using do not smoke. 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.                          |

## 9. Physical and chemical properties

| 9. Physical and chemical p                 | ropenties   |
|--|---|
| Appearance                                 |   |
| Physical state                             | Liquid.   |
| Form                                       | Liquid.   |
| Color                                      | Colorless.  |
| Odor                                       | Not available.  |
| Odor threshold                             | Not available.  |
| рН   | Not available.  |
| Melting point/freezing point               | -173.2 °F (-114 °C)   |
| Initial boiling point and boiling range    | 176 °F (80 °C)  |
| Flash point                                | 55.4 - 62.6 °F (13.0 - 17.0 °C) Closed Cup  |
| Evaporation rate                           | Expected to be rapid.   |
| Flammability (solid, gas)                  | Not applicable.   |
| Upper/lower flammability or explo          |   |
| Flammability limit - lower<br>(%)          | 3.3 % v/v   |
| Flammability limit - upper<br>(%)          | 19 % v/v  |
| Vapor pressure                             | 44.6 mm Hg  |
| Vapor density                              | 1.6 (air = 1)   |
| Relative density                           | Not available.  |
| Solubility(ies)                            |   |
| Solubility (water)                         | Completely soluble.   |
| Partition coefficient<br>(n-octanol/water) | Not available.  |
| Auto-ignition temperature                  | 685.4 °F (363 °C) (100% Ethyl alcohol)  |
| Decomposition temperature                  | Not available.  |
| Viscosity                                  | Not available.  |
| Other information                          |   |
| Explosive properties                       | Not explosive.  |
| Oxidizing properties                       | Not oxidizing.  |
| 10. Stability and reactivity               |   |
| Reactivity                                 | The product is stable and non-reactive under normal conditions of use, storage and transport.   |
| Chemical stability                         | Material is stable under normal conditions.   |
| Possibility of hazardous<br>reactions      | No dangerous reaction known under conditions of normal use.   |
| Conditions to avoid                        | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials                     | Acids. Strong oxidizing agents.   |
| Hazardous decomposition products           | No hazardous decomposition products are known.  |

## 11. Toxicological information

## Information on likely routes of exposure

| Inhalation   | Prolonged inhalation may be harmful.   |
|--|--|
| Skin contact   | May be absorbed through the skin. Prolonged skin contact may cause temporary irritation.   |
| Eye contact  | Causes serious eye irritation.   |
| Ingestion  | May be harmful if swallowed.   |
| Symptoms related to the<br>physical, chemical and<br>toxicological characteristics | Narcosis. Headache. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing.   |
|  | Methanol: Human exposure to methanol may result in illness, systemic poisoning, blindness, optic nerve damage and perhaps death, after being ingested, absorbed through the skin or inhaled. Death due to cardiac or respiratory failure has been reported in some cases from consumption of |

#### Information on toxicological effects

Acute toxicity May be harmful if swallowed.

as little as 30 ml.

| •  | •                       |   |  |  |
|--|-------------------------|---|--|--|
| Components   | Species                 | Test Results  |  |  |
| 2-Pentanone, 4-methyl- (CAS 108                    | 8-10-1)                 |   |  |  |
| Acute  |                         |   |  |  |
| Dermal   |                         |   |  |  |
| LD50   | Rabbit                  | > 16000 mg/kg   |  |  |
| Oral   |                         |   |  |  |
| LD50   | Rat                     | 3200 mg/kg  |  |  |
| Ethyl acetate (CAS 141-78-6)                       |                         |   |  |  |
| <u>Acute</u>                                       |                         |   |  |  |
| Dermal   |                         |   |  |  |
| LD50   | Rabbit                  | > 18000 mg/kg   |  |  |
| Inhalation   |                         |   |  |  |
| Vapor  | - /                     |   |  |  |
| LC50   | Rat                     | 58.6 mg/l, 4 hours  |  |  |
| Oral   |                         |   |  |  |
| LD50   | Rat                     | 10170 mg/kg   |  |  |
| Ethyl alcohol (CAS 64-17-5)                        |                         |   |  |  |
| Acute  |                         |   |  |  |
| Inhalation   |                         |   |  |  |
| Vapor<br>LC50                                      | Rat                     | 117 125 mg/l 4 Hours  |  |  |
|  | Nat                     | 117 - 125 mg/l, 4 Hours   |  |  |
| <b>Oral</b><br>LD50                                | Rat                     | 10470 mg/kg   |  |  |
|  |                         |   |  |  |
| Skin corrosion/irritation                          | -                       | t may cause temporary irritation.                                 |  |  |
| Serious eye damage/eye<br>irritation               | Causes serious eye irr  | Itation.  |  |  |
| Respiratory or skin sensitizatio                   | 'n                      |   |  |  |
| Respiratory sensitization                          | Not a respiratory sensi | tizer.  |  |  |
| Skin sensitization                                 |                         | pected to cause skin sensitization.                               |  |  |
| Germ cell mutagenicity                             |                         | dicate product or any components present at greater than 0.1% are |  |  |
|  |                         | mutagenic or genotoxic.   |  |  |
| Carcinogenicity                                    | Suspected of causing    | cancer.   |  |  |
| IARC Monographs. Overall                           | Evaluation of Carcinog  | enicity   |  |  |
| 2-Pentanone, 4-methyl-<br>NTP Report on Carcinogen |                         | 2B Possibly carcinogenic to humans.                               |  |  |
| Not listed.  |                         |   |  |  |
| OSHA Specifically Regulate                         | ed Substances (29 CFR   | 1910.1001-1053)   |  |  |
| Not regulated.                                     |                         |   |  |  |

| Reproductive toxicity                                 | This product is not expected to cause reproductive or developmental effects.       |
|---|--|
| Specific target organ toxicity -<br>single exposure   | Causes damage to organs (central nervous system, optic nerve).                     |
| Specific target organ toxicity -<br>repeated exposure | Not classified.  |
| Aspiration hazard                                     | Not an aspiration hazard.  |
| Chronic effects                                       | Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. |
|   |  |

## 12. Ecological information

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Components  |              | Species                                     | Test Results  |
|---|--------------|---|---|
| 2-Pentanone, 4-methyl- (Ca  | AS 108-10-1) |   |   |
| Aquatic   |              |   |   |
| Acute   |              |   |   |
| Crustacea   | EC50         | Water flea (Daphnia magna)                  | 3682 mg/l, 24 hours   |
| Fish  | LC50         | Pimephales promelas                         | 505 mg/l, 96 Hours  |
| Chronic   |              |   |   |
| Crustacea   | EC50         | Daphnia magna                               | 78 mg/l, 21 days  |
| Fish  | NOEC         | Pimephales promelas                         | 57 mg/l, 31 days  |
| Ethyl alcohol (CAS 64-17-5  | <b>)</b> )   |   |   |
| Aquatic   |              |   |   |
| Algae   | EC10         | Freshwater algae                            | 11.5 mg/l, 72 hours   |
|   | EC50         | Freshwater algae                            | 275 mg/l, 72 hours  |
|   |              | Marine water algae                          | 1900 mg/l   |
|   | NOEC         | Marine water algae                          | 1580 mg/l   |
| Fish  | LC50         | Freshwater fish                             | 11200 mg/l, 24 hours  |
|   | NOEC         | Freshwater fish                             | 250 mg/l  |
| Invertebrate  | EC50         | Freshwater invertebrate                     | 5012 mg/l, 48 hours   |
|   |              | Marine water invertebrate                   | 857 mg/l, 48 hours  |
|   | NOEC         | Freshwater invertebrate                     | 9.6 mg/l, 10 days   |
|   |              | Marine water invertebrate                   | 79 mg/l, 96 hours   |
| Other   | EC50         | Lemna minor                                 | 4432 mg/l, 7 days   |
|   | NOEC         | Lemna minor                                 | 280 mg/l, 7 days  |
| Other   |              |   |   |
| Micro-organisms   | LC50         | Micro-organisms                             | 5800 mg/l, 4 hours  |
| Terrestrial   |              |   | 3, 11   |
| Plant   | EC50         | Terrestrial plant                           | 633 mg/kg dw  |
| Methanol (CAS 67-56-1)  |              | F   |   |
| Aquatic   |              |   |   |
| Acute   |              |   |   |
| Crustacea   | EC50         | Daphnia magna                               | > 10000 mg/l, 48 hours  |
| Fish  | LC50         | Bluegill (Lepomis macrochirus)              | 15400 mg/l, 96 hours  |
| sistence and degradability  | No data is   | available on the degradability of this prod | luct.   |
| accumulative potential  |              |   |   |
| Partition coefficient n-oct<br>2-Pentanone, 4-methyl- (C/<br>Methanol (CAS 67-56-1) |              | og Kow)<br>1.31<br>-0.77                    |   |
| pility in soil  | The produc   | t is soluble in water.                      |   |
| er adverse effects  |              |   | depletion, photochemical ozone creation ontial) are expected from this component. |

## 13. Disposal considerations

| 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. Dispose of contents/container in accordance with local/regional/national/international regulations. |
|--|---|
| Local disposal regulations               | Dispose in accordance with all applicable regulations.  |
| Hazardous waste code                     | The waste code should be assigned in discussion between the user, the producer and the waste disposal company.  |
| Waste from residues / unused<br>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                      | UN1993  |
| UN proper shipping name        | Flammable liquids, n.o.s. (Ethyl alcohol; Ethyl acetate)                |
| Transport hazard class(es)     |   |
| Class                          | 3   |
| Subsidiary risk                | -   |
| Label(s)                       | 3   |
| Packing group                  | 11  |
| Environmental hazards          |   |
| Marine pollutant               | No.   |
| Special precautions for user   | Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions             | IB2, T7, TP1, TP8, TP28   |
| Packaging exceptions           | 150   |
| Packaging non bulk             | 202   |
| Packaging bulk                 | 242   |
| ΙΑΤΑ                           |   |
| UN number                      | UN1993  |
| UN proper shipping name        | Flammable liquid, n.o.s. (Ethyl alcohol; Ethyl acetate)                 |
| Transport hazard class(es)     |   |
| Class                          | 3   |
| Subsidiary risk                | -   |
| Packing group                  | 11  |
| Environmental hazards          | No.   |
| ERG Code                       | 3H  |
| Special precautions for user   | Read safety instructions, SDS and emergency procedures before handling. |
| IMDG                           |   |
| UN number                      | UN1993  |
| UN proper shipping name        | FLAMMABLE LIQUID, N.O.S. (Ethyl alcohol; Ethyl acetate)                 |
| Transport hazard class(es)     |   |
| Class                          | 3   |
| Subsidiary risk                | -   |
| Packing group                  | 1   |
| Environmental hazards          |   |
| Marine pollutant               | No.   |
| EmS                            | F-E, <u>S-E</u>   |
| Special precautions for user   | Read safety instructions, SDS and emergency procedures before handling. |
| Transport in bulk according to | Not established.  |
| Annex II of MARPOL 73/78 and   |   |
| the IBC Code                   |   |
| 15. Regulatory information     |   |

#### 15. Regulatory information

**US** federal regulations

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

| TSCA Section 12(b) Exp<br>Not regulated.<br>CERCLA Hazardous Su       |   |                                |  |     |
|---|---|--------------------------------|--|-----|
| 2-Pentanone, 4-meth   | •   | Listed.                        |  |     |
| Ethyl acetate (CAS 141-78-6)  |   | Listed.                        |  |     |
| Methanol (CAS 67-56-1)  |   | Listed.                        |  |     |
| SARA 304 Emergency r  | elease notification   |                                |  |     |
| Not regulated.<br>OSHA Specifically Regu<br>Not regulated.            | ulated Substances (29 C   | CFR 1910.1001-1053)            |  |     |
| Toxic Substances Control<br>Act (TSCA)                                | All components of the r   | mixture on the TSCA 8          | (b) inventory are designated "active".     |     |
| Superfund Amendments and Re   | authorization Act of 19   | 86 (SARA)                      |  |     |
| SARA 302 Extremely hazard   |   | <b>X Y</b>                     |  |     |
| Not listed.   |   |                                |  |     |
| SARA 311/312 Hazardous<br>chemical                                    | Yes   |                                |  |     |
| Classified hazard categories  | Flammable (gases, aer<br>Serious eye damage of<br>Carcinogenicity<br>Specific target organ to | r eye irritation               |  |     |
| SARA 313 (TRI reporting)<br>Chemical name                             |   | CAS number                     | % by wt.                                   |     |
| 2-Pentanone, 4-methyl-  |   | 108-10-1                       | 0.90 - 0.95                                |     |
| Methanol  |   | 67-56-1                        | 4.50 - 4.52                                |     |
| Other federal regulations   |   |                                |  |     |
| Clean Air Act (CAA) Section   | 112 Hazardous Air Pol   | lutants (HAPs) List            |  |     |
| 2-Pentanone, 4-methyl- (<br>Methanol (CAS 67-56-1)                    |   |                                |  |     |
| Clean Air Act (CAA) Section   | 112(r) Accidental Relea   | ase Prevention (40 Cl          | FR 68.130)                                 |     |
| Not regulated. Safe Drinking Water Act                                | Contains component(s)   | ) regulated under the S        | Safe Drinking Water Act.                   |     |
| (SDWA)<br>Drug Enforcement Adm<br>Chemical Code Number                |   | 2, Essential Chemical          | s (21 CFR 1310.02(b) and 1310.04(f)(2) and | d   |
| 2-Pentanone, 4-meth   |   | 6715                           |  |     |
|   |   | & 2 Exempt Chemic              | al Mixtures (21 CFR 1310.12(c))            |     |
| 2-Pentanone, 4-meth   |   | 35 %WV                         |  |     |
| DEA Exempt Chemical   |   |                                |  |     |
| 2-Pentanone, 4-meth   | <b>,</b>  | 6715<br>and Safety in the Flay | or Manufacturing Workplace                 |     |
| 2-Pentanone, 4-meth   | • •   | Low priority                   |  |     |
| Ethyl acetate (CAS 1  | 41-78-6)  | Low priority                   |  |     |
| Ethyl alcohol (CAS 6  | 4-17-5)   | Low priority                   |  |     |
| US state regulations  |   |                                |  |     |
| US. Massachusetts RTK - S   |   |                                |  |     |
| 2-Pentanone, 4-methyl- (CAS 108-10-1)<br>Ethyl acetate (CAS 141-78-6) |   |                                |  |     |
| Ethyl alcohol (CAS 64-17-5)   |   |                                |  |     |
| Methanol (CAS 67-56-1)  |   |                                |  |     |
| US. New Jersey Worker and   |   | now Act                        |  |     |
| 2-Pentanone, 4-methyl- (CAS 108-10-1)<br>Ethyl acetate (CAS 141-78-6) |   |                                |  |     |
| Ethyl alcohol (CAS 64-17-5)   |   |                                |  |     |
| Methanol (CAS 67-56-1)  |   |                                |  |     |
| US. Pennsylvania Worker and Community Right-to-Know Law               |   |                                |  |     |
| 2-Pentanone, 4-methyl- (<br>Ethyl acetate (CAS 141-7                  |   |                                |  |     |
| SIS Formula SIC-1, 190 Proof  |   |                                |  | - 5 |

Ethyl alcohol (CAS 64-17-5) Methanol (CAS 67-56-1)

#### US. Rhode Island RTK

2-Pentanone, 4-methyl- (CAS 108-10-1) Ethyl acetate (CAS 141-78-6) Ethyl alcohol (CAS 64-17-5) Methanol (CAS 67-56-1)

#### **California Proposition 65**



**WARNING:** This product can expose you to chemicals including 2-Pentanone, 4-methyl-, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

#### California Proposition 65 - CRT: Listed date/Carcinogenic substance

2-Pentanone, 4-methyl- (CAS 108-10-1)

Listed: November 4, 2011

# California Proposition 65 - CRT: Listed date/Developmental toxin 2-Pentanone, 4-methyl- (CAS 108-10-1) Listed: March 28, 2014 Methanol (CAS 67-56-1) Listed: March 16, 2012

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

2-Pentanone, 4-methyl- (CAS 108-10-1) Ethyl acetate (CAS 141-78-6) Methanol (CAS 67-56-1)

#### International Inventories

| Country(s) or region  | Inventory name  | On inventory (yes/no)* |  |
|---|---|------------------------|--|
| Australia   | Australian Inventory of Chemical Substances (AICS)                        | Yes                    |  |
| Canada  | Domestic Substances List (DSL)  | Yes                    |  |
| Canada  | Non-Domestic Substances List (NDSL)                                       | No                     |  |
| China   | Inventory of Existing Chemical Substances in China (IECSC)                | Yes                    |  |
| Europe  | European Inventory of Existing Commercial Chemical<br>Substances (EINECS) | Yes                    |  |
| Europe  | European List of Notified Chemical Substances (ELINCS)                    | No                     |  |
| Japan   | Inventory of Existing and New Chemical Substances (ENCS)                  | Yes                    |  |
| Korea   | Existing Chemicals List (ECL)   | Yes                    |  |
| New Zealand   | New Zealand Inventory   | Yes                    |  |
| Philippines   | Philippine Inventory of Chemicals and Chemical Substances (PICCS)         | Yes                    |  |
| Taiwan  | Taiwan Chemical Substance Inventory (TCSI)                                | Yes                    |  |
| United States & Puerto Rico   | Toxic Substances Control Act (TSCA) Inventory                             | Yes                    |  |
| *A "Vea" indicates this product complice with the investory requirements administered by the governing country(a) |   |                        |  |

\*A "Yes" indicates this product complies 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).

### 16. Other information, including date of preparation or last revision

| Issue date    | 26-September-2018  |
|---------------|--|
| Revision date | 07-February-2019   |
| Version #     | 02   |
| HMIS® ratings | Health: 4*<br>Flammability: 3<br>Physical hazard: 0  |
| Disclaimer    | This product is subject to Greenfield Global USA Inc.'s terms and conditions, which can be found at http://www.greenfield.com/tc-po-us/. Greenfield cannot anticipate all conditions under which this information and this product, or the products of other manufacturers in combination with this product, may be used. The user is responsible for the proper and safe use, handling, storage and disposal of the product, and assumes liability for any loss, injury, damage or expense arising from any failure to do so. The data in this sheet is based on information and experience available at the time of writing. |