SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Startex Methyl Ethyl Ketone

Recommended use of the chemical and restrictions on use
Recommended use : Solvent.

Manufacturer or supplier’s details
Company : Nexeo Solutions LLC - STARTEX™
Address : 3 Waterway Square Place Suite 1000
           The Woodlands, TX. 77380
           United States of America

Emergency telephone number:
Health North America: 1-855-NEXEO4U (1-855-639-3648)
Health International: 1-855-NEXEO4U (1-855-639-3648)
Transport North America: CHEMTREC (1-800-424-9300)

Additional Information: Responsible Party: Product Safety Group
E-Mail: msds@nexeosolutions.com
SDS Requests: 1-855-429-2661
SDS Requests Fax: 1-281-500-2370
Website: www.nexeosolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Flammable liquids : Category 2
Eye irritation : Category 2A
Specific target organ toxicity - single exposure : Category 3 (Central nervous system)

GHS Label element
Hazard pictograms :

Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.
                   H319 Causes serious eye irritation.
                   H336 May cause drowsiness or dizziness.

Precautionary statements : Prevention:
                          P210 Keep away from heat/sparks/open flames/hot surfaces.
                          No smoking.
                          P233 Keep container tightly closed.
                          P240 Ground/bond container and receiving equipment.
                          P241 Use explosion-proof electrical/ ventilating/ lighting/ equip-
**P242** Use only non-sparking tools.
**P243** Take precautionary measures against static discharge.
**P261** Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
**P264** Wash skin thoroughly after handling.
**P271** Use only outdoors or in a well-ventilated area.
**P280** Wear protective gloves/ eye protection/ face protection.

**Response:**
**P303 + P361 + P353** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
**P304 + P340 + P312** IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
**P305 + P351 + P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
**P337 + P313** If eye irritation persists: Get medical advice/ attention.
**P370 + P378** In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**
**P403 + P233** Store in a well-ventilated place. Keep container tightly closed.
**P403 + P235** Store in a well-ventilated place. Keep cool.
**P405** Store locked up.

**Disposal:**
**P501** Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**
None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Substance</th>
</tr>
</thead>
</table>

**Hazardous components**

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Chemical Name</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Methyl ethyl ketone</td>
<td>90 - 100</td>
</tr>
</tbody>
</table>

Any Concentration shown as a range is due to batch variation.

**SECTION 4. FIRST AID MEASURES**

**General advice**
- Move out of dangerous area.
- Show this safety data sheet to the doctor in attendance.
- Do not leave the victim unattended.

**If inhaled**
- Consult a physician after significant exposure.
- If unconscious place in recovery position and seek medical advice.
In case of skin contact: If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact: Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed: Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media: Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media: High volume water jet

Specific hazards during firefighting: Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products: Carbon oxides

Further information: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Safety Data Sheet
Startex Methyl Ethyl Ketone

Environmental precautions:
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up:
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion:
Do not spray on a naked flame or any incandescent material.
Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

Advice on safe handling:
Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Take precautionary measures against static discharges.
Provide sufficient air exchange and/or exhaust in work rooms.
Container may be opened only under exhaust ventilation hood.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage:
No smoking.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Components</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Methyl ethyl ketone</td>
<td>TWA 200 ppm</td>
<td></td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL 300 ppm</td>
<td></td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 200 ppm</td>
<td></td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td>ST</td>
<td>TWA</td>
<td>STEL</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td><strong>Concentration</strong></td>
<td>300 ppm</td>
<td>200 ppm</td>
<td>300 ppm</td>
<td></td>
</tr>
<tr>
<td><strong>Unit</strong></td>
<td>590 mg/m³</td>
<td>590 mg/m³</td>
<td>885 mg/m³</td>
<td></td>
</tr>
<tr>
<td><strong>NIOSH REL</strong></td>
<td></td>
<td>OSHA Z-1</td>
<td>OSHA P0</td>
<td></td>
</tr>
<tr>
<td><strong>OSHA Z</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OSHA P0</strong></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### Personal protective equipment

**Respiratory protection**
General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

**Hand protection**

**Remarks**: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

**Eye protection**
Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

**Skin and body protection**
Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance**: liquid
- **Colour**: Clear, Colorless
- **Odour**: characteristic, pungent, sweet
- **Odour Threshold**: No data available
- **pH**: No data available
Freezing Point (Melting point/freezing point): -86 °C (-123 °F)

Boiling Point (Boiling point/boiling range): 79 - 81 °C (174 - 178 °F)

Flash point: -9 - -4 °C (16 - 25 °F)

Evaporation rate: < 7.7 (Butyl Acetate = 1)

Flammability (solid, gas): No data available

Upper explosion limit: 11.5 % (V)

Lower explosion limit: 1 % (V)

Vapour pressure: < 94.500 mmHg @ 20 - 25 °C (68 - 77 °F)

Relative vapour density: < 2.5 @ 20 °C (68 °F)
(Air = 1.0)

Relative density: 0.804 - 0.807 @ 20 °C (68 °F)
Reference substance: (water = 1)

Density: 0.804 - 0.806 g/cm³ @ 20 °C (68 °F)

Solubility(ies)
Water solubility: completely miscible @ 20 °C (68 °F)

Solubility in other solvents: No data available

Partition coefficient: n-octanol/water
log Pow: 0.3

Auto-ignition temperature: 404 - 515 °C

Thermal decomposition: No data available

Viscosity
Viscosity, dynamic: 0.40 - 0.42 mPa.s @ 20 °C (68 °F)

Viscosity, kinematic: 0.51 mm²/s @ 20 °C (68 °F)

Surface tension: 24.8 mN/m, 20 °C

SECTION 10. STABILITY AND REACTIVITY

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: Vapours may form explosive mixture with air.

Conditions to avoid: Keep away from heat, flame, sparks and other ignition sources. Exposure to moisture.

Incompatible materials: Alkalis
Chloroform
Hydrogen peroxide
Nitric acid
Oxidizing agents
Strong reducing agents

Hazardous decomposition products: Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Serious eye damage/eye irritation

Components:
78-93-3:
Species: Rabbit
Result: Irritating to eyes.
Exposure time: 24 h

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

STOT - single exposure

Components:
78-93-3:
Target Organs: Central nervous system
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

Further information

Product:
Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Concentrations substantially above the TLV value may cause narcotic effects.
Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

Product:
Ozone-Depletion Potential
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact NEXEO's Environmental Services Group at 800-637-7922.
Contaminated packaging:
- Empty remaining contents.
- Dispose of as unused product.
- Do not re-use empty containers.
- Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

**DOT (Department of Transportation):**
UN1193, Methyl ethyl ketone, 3, II

**IATA (International Air Transport Association):**
UN1193, Methyl ethyl ketone, 3, II

**IMDG (International Maritime Dangerous Goods):**
UN1193, METHYL ETHYL KETONE, 3, II, Flash Point:-9 - -4 °C(16 - 25 °F)

SECTION 15. REGULATORY INFORMATION

**WHMIS Classification**:
- B2: Flammable liquid
- D2B: Toxic Material Causing Other Toxic Effects

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**CERCLA Reportable Quantity**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl ethyl ketone</td>
<td>78-93-3</td>
<td>5000</td>
<td>5051</td>
</tr>
</tbody>
</table>

**SARA 304 Extremely Hazardous Substances Reportable Quantity**
This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards**
- Fire Hazard
- Immediate (Acute) Health Hazard

**SARA 302**
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313**
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Air Act**
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Methyl ethyl ketone</td>
</tr>
</tbody>
</table>
Clean Water Act
This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations
Massachusetts Right To Know
78-93-3 Methyl ethyl ketone 90 - 100 %
Pennsylvania Right To Know
78-93-3 Methyl ethyl ketone 90 - 100 %
New Jersey Right To Know
78-93-3 Methyl ethyl ketone 90 - 100 %
California Prop 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other re- productive harm.

The components of this product are reported in the following inventories:
TSCA : On TSCA Inventory
DSL : All components of this product are on the Canadian DSL
AICS : On the inventory, or in compliance with the inventory
NZIoC : On the inventory, or in compliance with the inventory
ENCS : On the inventory, or in compliance with the inventory
KECI : On the inventory, or in compliance with the inventory
PHIL : On the inventory, or in compliance with the inventory
IECSC : On the inventory, or in compliance with the inventory
SECTION 16. OTHER INFORMATION

**NFPA:**

- Flammability: 3
- Health: 2
- Instability: 0

**HMIS III:**

- HEALTH: 2
- FLAMMABILITY: 3
- PHYSICAL HAZARD: 0

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by NEXEO™ Solutions EHS Product Safety Department (1-855-429-2661) MSDS@nexeosolutions.com.

**Revision Date:** 02/27/2017

**Material number:**
16066725, 16066724, 16066723, 16061575, 16066703, 16056352, 16056351, 16056350, 16056349

---

**Key or legend to abbreviations and acronyms used in the safety data sheet**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>AICS</td>
<td>Australia, Inventory of Chemical Substances</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>DSL</td>
<td>Canada, Domestic Substances List</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
</tr>
<tr>
<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration 50%</td>
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<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
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<tr>
<td>EGEST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
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<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
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<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
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<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
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<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
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<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
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<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act.</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
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<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
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<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>UVCB</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
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</table>