

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) 2015/830

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifier

Product Name: **Ink, Black to Blue**

Product Code: **51-0022-01**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product Use: Printing ink for use in BestCode CIJ

1.3 Details of the supplier of the safety data sheet

BestCode

3034 SE Loop 820

Fort Worth, TX 76140

817-349-8555

For further information, please contact Customer Service:

Customer Service: 817-349-8555

Email: Info@Bestcode.co

1.4 Emergency telephone number

Emergency Contact: Local Poison Information Center

Chem Tel. Inc. Toll Free 800-255-3924

International 813-248-0585

Section 2: Hazards identification

2.1 Classification of the mixture in accordance with Article 40 of Regulation (EC) No 1272/2008

GHS Rating:

Skin Corrosion/irritation Category 1 Sub-category C - (H314)

Serious eye damage/eye irritation Category 1 - (H318)

Specific target organ toxicity (single exposure) Category 3 - (H336)

Acute aquatic toxicity Category 1 - (H400)

Chronic aquatic toxicity Category 2 - (H411)

Flammable liquids Category 2 - (H225)

2.2 Label elements



Signal word: **Danger**



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Hazard statements:

H225 - Highly flammable liquid and vapor
H314 - Causes severe skin burns and eye damage
H336 - May cause drowsiness or dizziness
H400 - Very toxic to aquatic life
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements:

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P235 - Keep cool
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P363 - Wash contaminated clothing before reuse
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

2.3 Other Hazards

N/A

Section 3: Composition/information on ingredients

3.1 Substances:

3.2 Mixtures:

| CAS # | EC # | Hazardous components / REACH Registration No. | Concentration | GHS Classification |
|-----------------|---------------------------|---|---------------|--|
| 78-93-3 | 201-159-0 | Methyl ethyl ketone | 30.0-60.0% | Flam. Liq. 2: H225; Eye Irrit. 2: H319; STOT SE 3: H336; |
| 64-17-5 | 200-578-6 603-002-00-5 | Ethyl alcohol | 10.0-30.0% | Flam. Liq. 2: H225 Eye Irrit. 2: H319; |
| NOT ESTABLISHED | | Quaternary ammonium compounds, C12-14 | 5.0-10.0% | |

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| | | (even-numbered) - alkylethyldimethyl, ethyl sulphates | | |
| 108-65-6 | 203-603-9 607-195-00-7 | Propylene glycol monomethyl ether acetate | 5.0-10.0% | Flam. Liq. 3 (H226) |
| 109-60-4 | 203-686-1 | n-Propyl acetate | 1.0-5.0% | Flam. Liq. 2: H225; Eye Irrit. 2A: H319; STOT SE 3: H336; |
| 71-36-3 | 200-751-6 | 1-Butanol | 1.0-5.0% | Flam. Liq. 3 Acute Tox. 4 Skin Irrit. 2 Eye Dam. 1 STOT SE 3 |
| 67-63-0 | 603-117-00-0 200-661-7 | Isopropyl alcohol | 1.0-5.0% | Eye Irrit. 2 Flam. Liq. 3 STOT SE 3 |

Section 4: First Aid Measures

4.1 Description of first aid measures

- Inhalation: Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.
- Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists.
- Skin: Wash off immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation (redness, rash, blistering) develops, get medical attention.
- Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

4.2 Most Important symptoms and effects, both acute and delayed

None under normal use conditions.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to doctor: Show this safety data sheet to the doctor in attendance. Treat symptomatically.

Section 5: Fire Fighting Measures

5.1 Extinguishing media

Foam. Carbon dioxide (CO₂). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions.

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray. Sealed containers may rupture when heated.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Remove persons to safety.

6.1.2 For emergency responders

Remove all sources of ignition. Ventilate the area. Avoid contact with eyes, skin and clothing. Avoid breathing dust or vapor. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental Precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

6.3.1 For Containment:

Contain spillage

6.3.2 Clean up and disposal of spill:

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). Use clean non-sparking tools to collect absorbed material.

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Section 7: Handling and storage

7.1 Precautions for safe handling

Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Ensure adequate ventilation.

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep container closed when not in use.

Keep out of the reach of children.

Incompatible with strong acids, strong bases, strong oxidizing agents and reducing agents.

7.3 Specific end use(s)

Fluid delivery to BestCode Series 8 CIJ. Follow safety instructions outlined in 7.1 & 7.2 while handling. Observe warnings provided with BestCode Series 8 CIJ system when installing and handling fluids

Section 8: Exposure control/personal protection

8.1 Control parameters

| CAS # | Hazardous components | ACGIH TLV | Australia | Austria |
|-----------------|---|-------------------------------|---|--|
| 78-93-3 | Methyl ethyl ketone | TWA: 200 ppm STEL: 300 ppm | TWA: 295 mg/m ³ (100 ppm) STEL: 590 mg/m ³ (200 ppm) | TWAs - 100 ppm |
| 64-17-5 | Ethyl alcohol | TLV: 1000 ppm | TWA: 1900 mg/m ³ (1000 ppm) STEL: 3800 mg/m ³ (2000 ppm) | TWA: 1880 mg/m ³ (1000 ppm) STEL: () |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | TWA: 100 ppm STEL: 150 ppm | | |
| 71-36-3 | 1-Butanol | TWA: 20 ppm | | |
| 67-63-0 | Isopropyl alcohol | TLV: 200 ppm STEL: 400 ppm | TWA: 500 mg/m ³ (200 ppm) STEL: 2000 mg/m ³ (800 ppm) | TWA: 983 mg/m ³ (400 ppm) STEL: 1230 mg/m ³ (500 ppm) |

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| CAS # | Hazardous components | Belgium OEL | California, USA PELs | Ontario, CA |
|--------------------|---|--|--|---|
| 78-93-3 | Methyl ethyl ketone | 200 ppm TWA | PELs 200 ppm STELs 300 ppm | TWA: 200 ppm STEL: 300 ppm |
| 64-17-5 | Ethyl alcohol | TWA: 1907 mg/m ³ (1000 ppm) | TWA: 1900 mg/m ³ (1000 ppm) | STEL: 1000 ppm |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | TWA: 50 ppm TWA: 270 mg/m ³ |
| 109-60-4 | n-Propyl acetate | | | TWA: 200 ppm STEL: 250 ppm |
| 71-36-3 | 1-Butanol | | | TWA: 20 ppm |
| 67-63-0 | Isopropyl alcohol | TWA: 500 mg/m ³ (200 ppm) STEL: 1000 mg/m ³ (400 ppm) | TWA: 980 mg/m ³ (400 ppm) STEL: 1225 mg/m ³ (500 ppm) | TWA: 200 ppm STEL: 400 ppm |

| CAS # | Hazardous components | China | Québec, CA | German AGS |
|--------------------|---|---|---|--|
| 78-93-3 | Methyl ethyl ketone | TWA: 300 mg/m ³ STEL: 600 mg/m ³ (15 min) | STELs 100 ppm PELs 50 ppm | TWA: 600 mg/m ³ (200 ppm) STEL: 600 mg/m ³ (200 ppm) (15 min) |
| 64-17-5 | Ethyl alcohol | | TWA: 1880 mg/m ³ (1000 ppm) | TWA: 960 mg/m ³ (500 ppm) STEL: 1920 mg/m ³ (1000 ppm) (15 min) |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | | | |

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|---------|-------------------|---|--|---|
| 67-63-0 | Isopropyl alcohol | TWA: 350 mg/m3 STEL: 700 mg/m3 (15 min) | TWA: 983 mg/m3 (400 ppm) STEL: 1230 mg/m3 (500 ppm) | TWA: 500 mg/m3 (200 ppm) STEL: 1000 mg/m3 (400 ppm) (15 min) |
|---------|-------------------|---|--|---|

| CAS # | Hazardous components | Germany MAK/TRK | Denmark OEL | Spain OEL |
|--------------------|---|--|---|--|
| 78-93-3 | Methyl ethyl ketone | TWA: 295 mg/m3 (100 ppm) STEL: 600 mg/m3 (200 ppm) (30min) (4x) | TWA: 145 mg/m3 (50 ppm) STEL: 290 mg/m3 (100 ppm) | TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm) |
| 64-17-5 | Ethyl alcohol | TWA: 1900 mg/m3 (1000 ppm) STEL: 3800 mg/m3 (2000 ppm) (60min) (3x) TWA: 960 mg/m3 (500 ppm) | TWA: 1900 mg/m3 (1000 ppm) STEL: 3800 mg/m3 (2000 ppm) | STEL: 1910 mg/m3 (1000 ppm) |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | | | |
| 67-63-0 | Isopropyl alcohol | TWA: 500 mg/m3 (200 ppm) STEL: 2000 mg/m3 (15/30min)(4x) (800 ppm (15/30min) (4x)) | TWA: 500 mg/m3 (200 ppm) STEL: 980 mg/m3 (400 ppm) | TWA: 500 mg/m3 (200 ppm) STEL: 1000 mg/m3 (400 ppm) |

| CAS # | Hazardous components | Europe | Finland OEL | France VL |
|---------|----------------------|---|---------------------------------------|---|
| 78-93-3 | Methyl ethyl ketone | TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm) | STEL: 300 mg/m3 (100 ppm) (15 min) | TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm) |

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|-----------------|---|--|--|---|
| 64-17-5 | Ethyl alcohol | | TWA: 1900 mg/m3 (1000 ppm) STEL: 2500 mg/m3 (1300 ppm) (15 min) | TWA: 1900 mg/m3 (1000 ppm) STEL: 9500 mg/m3 (5000 ppm) |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | | | |
| 67-63-0 | Isopropyl alcohol | | TWA: 500 mg/m3 (200 ppm) STEL: 620 mg/m3 (250 ppm) (15 min) | STEL: 980 mg/m3 (400 ppm) |

| CAS # | Hazardous components | Hungary OEL | Ireland OEL | Italy OEL |
|-----------------|---|-------------------------------------|--|---|
| 78-93-3 | Methyl ethyl ketone | TWA: 600 mg/m3 STEL: 900 mg/m3 | TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm) (15 min) | TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm) |
| 64-17-5 | Ethyl alcohol | TWA: 1900 mg/m3 STEL: 7600 mg/m3 | STEL: 1000 ppm (15 min) | |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | | | |
| 67-63-0 | Isopropyl alcohol | TWA: 500 mg/m3 STEL: 2000 mg/m3 | TWA: 200 ppm STEL: 400 ppm (15 min) | |

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| CAS # | Hazardous components | South Korea | Latvia OEL | Mexico OEL |
|-----------------|---|---|---|---|
| 78-93-3 | Methyl ethyl ketone | TWA: 590 mg/m3 (200 ppm) STEL: 885 mg/m3 (300 ppm) | TWA: 200 mg/m3 (67 ppm) STEL: 900 mg/m3 (300 ppm) (15 min) | TWA/VLE-PPT: 200 ppm TWA/VLE-PPT: 590 mg/m3 STEL/PPT-CT: 300 ppm STEL/PPT-CT: 885 mg/m3 |
| 64-17-5 | Ethyl alcohol | TWA: 1900 mg/m3 (1000 ppm) | TWA: 1000 mg/m3 | TWA/VLE-PPT: 1000 ppm TWA/VLE-PPT: 1900 mg/m3 |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | TWA/VLE-PPT: 200 ppm TWA/VLE-PPT: 840 mg/m3 STEL/PPT-CT: 250 ppm STEL/PPT-CT: 1050 mg/m3 |
| 71-36-3 | 1-Butanol | | | Ceiling: 50 ppm Ceiling: 150 mg/m3 |
| 67-63-0 | Isopropyl alcohol | TWA: 480 mg/m3 (200 ppm) STEL: 980 mg/m3 (400 ppm) | TWA: 350 mg/m3 STEL: 600 | TWA/VLE-PPT: 400 ppm TWA/VLE-PPT: 980 mg/m3 STEL/PPT-CT: 500 ppm STEL/PPT-CT: 1225 mg/m3 |

| CAS # | Hazardous components | Malaysia OEL | NIOSH | Netherlands OEL |
|-----------------|---------------------------------------|--------------------------|-------------------------------|-----------------------------------|
| 78-93-3 | Methyl ethyl ketone | TWA: 590 mg/m3 (200 ppm) | TWA: 200 ppm STEL: 300 ppm | TWA: 590 mg/m3 STEL: 900 mg/m3 |
| 64-17-5 | Ethyl alcohol | Ethyl alcohol | TWA: 1880 mg/m3 (1000 ppm) | TWA: 1900 mg/m3 (1000 ppm) |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 | | | |

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| | | | | |
|----------|---|--------------------------|--|--|
| | (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | | | |
| 67-63-0 | Isopropyl alcohol | TWA: 983 mg/m3 (400 ppm) | TWA: 980 mg/m3 (400 ppm) STEL: 1225 | |

| CAS # | Hazardous components | New Zealand | OSHA PELs | Poland |
|-----------------|---|--|---|------------------------------------|
| 78-93-3 | Methyl ethyl ketone | TWA: 445 mg/m3 (150 ppm) STEL: 890 mg/m3 (300 ppm) | PEL: 200 ppm | TWA: 450 mg/m3 STEL: 900 mg/m3 |
| 64-17-5 | Ethyl alcohol | TWA: 1880 mg/m3 (1000 ppm) | PEL: 1000 ppm | TWA: 1900 mg/m3 |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | TWA: 200 ppm TWA: 840 mg/m3 STEL: 250 ppm STEL: 1050 mg/m3 | |
| 71-36-3 | 1-Butanol | | TWA: 100 ppm TWA: 300 mg/m3 Ceiling: 50 ppm Ceiling: 150 mg/m3 Skin | |
| 67-63-0 | Isopropyl alcohol | TWA: 983 mg/m3 (400 ppm) STEL: 1230 mg/m3 (500 ppm) | TWA: 400 ppm TWA: 980 mg/m3 STEL: 500 ppm STEL: 1225 mg/m3 | TWA: 900 mg/m3 STEL: 1200 mg/m3 |

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| CAS # | Hazardous components | Sweden OEL | Singapore | Britain EH40 |
|-----------------|---|---|--|---|
| 78-93-3 | Methyl ethyl ketone | TWA: 150 mg/m ³ (50 ppm) STEL: 300 mg/m ³ (100 ppm) (15 min) | TWA: 590 mg/m ³ (200 ppm) STEL: 885 mg/m ³ (300 ppm) | TWA: 600 mg/m ³ (200 ppm) STEL: 899 mg/m ³ (300 ppm) |
| 64-17-5 | Ethyl alcohol | TWA: 1000 mg/m ³ (500 ppm) STEL: 1900 mg/m ³ (1000 ppm) (15 min) | TWA: 1880 mg/m ³ (1000 ppm) | TWA: 1920 mg/m ³ (1000 ppm) STEL: () |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | | | |
| 67-63-0 | Isopropyl alcohol | TWA: 350 mg/m ³ (150 ppm) STEL: 600 mg/m ³ (250 ppm) (15 min) | TWA: 983 mg/m ³ (400 ppm) STEL: 1230 mg/m ³ (500 ppm) | TWA: 999 mg/m ³ (400 ppm) STEL: 1250 |

| CAS # | Hazardous components | Switzerland OEL | Japan OEL | |
|-----------------|---|--|-----------|--|
| 78-93-3 | Methyl ethyl ketone | | | |
| 64-17-5 | Ethyl alcohol | | | |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | | | |
| 67-63-0 | Isopropyl alcohol | TWA: 500 mg/m ³ (200 ppm) STEL: 1000 mg/m ³ (400 ppm) | | |



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8.2 Exposure controls:

8.2.1 Appropriate engineering controls:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Users are advised to consider national Occupational Exposure Limits or other equivalent values. In case of insufficient ventilation, wear suitable respiratory equipment.

8.2.2 Individual protection measures, such as personal protective equipment

- Eye/Face protection:** Wear safety glasses with side shields (or goggles). If splashes are likely to occur. Wear suitable face shield. Ensure that eyewash stations and safety showers are close to the workstation location.
- Skin protection:** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
- Respiratory protection:** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.
- Hygienic Practices:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking or smoking. Wash contaminated clothing before reuse. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | | | |
|-----------------------------------|-------------------|---|---------------|
| Appearance: | Colored Liquid | | |
| Odor: | - | Odor threshold: | - |
| pH: | - | Melting point: | - |
| Boiling range: | > 149 °C / 300 °F | Flash point: | -9 °C / 16 °F |
| Evaporation rate: | - | Upper Explosive Limit: | - |
| | | Lower Explosive Limit: | - |
| Flammability: | - | Vapor Pressure: | - |
| Vapor density: | - | Relative Density: | 0.85 |
| Solubility(ies): | - | Partition coefficient n-octanol/water: | - |
| Auto-ignition temperature: | - | Decomposition temperature: | - |
| Viscosity: | - | | |
| Explosive properties: | - | | |
| Oxidizing properties: | - | | |



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9.2 Other information:

| | | | |
|---------------------|---|-------------|--|
| Miscibility: | - | VOC: | 77.31 % by weight 5.51 lbs/gal 660.52 gram/liter |
|---------------------|---|-------------|--|

Section 10: Stability and reactivity

10.1 Reactivity

No information available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid:

Keep away from open flames, hot surfaces and sources of ignition.

10.5 Incompatible materials:

Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon dioxide (CO₂). Carbon monoxide.

Section 11: Toxicological information

11.1 Information on Toxicological effects

| | |
|---|---|
| Acute toxicity: | 0.01 % of the mixture consists of ingredient(s) of unknown toxicity |
| Skin corrosion/irritation: | Specific test data for the substance or mixture is not available. Causes severe burns. (based on components). |
| Serious eye damage/irritation: | Specific test data for the substance or mixture is not available. Causes severe eye damage. (based on components). |
| Respiratory or skin sensitization: | Specific test data for the substance or mixture is not available. |
| Germ cell mutagenicity: | Specific test data for the substance or mixture is not available. |
| Carcinogenicity: | Ethyl alcohol 64-17-5: ACGIH: A3, IARC: Group 1, OSHA: X. |
| Reproductive toxicity: | Specific test data for the substance or mixture is not available. |
| STOT-single exposure: | Specific test data for the substance or mixture is not available. May cause drowsiness or dizziness. (based on components). |
| STOT-repeated exposure: | Specific test data for the substance or mixture is not available. |
| Aspiration hazard | Specific test data for the substance or mixture is not available. |

11.1.1 Hazard Class information:

11.1.2 Mixture toxicity:

ATEmix (oral) 6,329.00 mg/kg
ATEmix (dermal) 4,747.00 mg/kg mg/l

Methyl ethyl ketone 78-93-3
Oral LD50 = 2483 mg/kg (Rat)
Dermal LD50 = 5000 mg/kg (Rabbit)
Inhalation LC50 = 11700 ppm (Rat) 4 h

Ethyl alcohol 64-17-5
Oral LD50 = 7060 mg/kg (Rat)
Inhalation LC50 = 124.7mg/L (Rat) 4 h

Propylene glycol monomethyl ether acetate 108-65-6
Oral LD50 = 8532 mg/kg (Rat)
Dermal LD50 > 5 g/kg (Rabbit)

n-Propyl acetate 109-60-4
Oral LD50 = 8700 mg/kg (Rat)
Dermal LD50 > 17756 mg/kg (Rabbit)

1-Butanol 71-36-3
Oral LD50 = 700 mg/kg (Rat)
Dermal LD50 = 3402 mg/kg (Rabbit)
Inhalation LC50 > 8000 ppm (Rat) 4 h

Isopropyl alcohol 67-63-0
Oral LD50 = 1870 mg/kg (Rat)
Dermal LD50 = 4059 mg/kg (Rabbit)
Inhalation LC50 = 72600 mg/m3 (Rat) 4 h

11.1.3 Critical studies:

11.1.4 Non-compliance hazard class:

11.1.5 Information on likely routes of exposure:

Specific test data for the substance or mixture is not available.

11.1.6 Symptoms related to the physical, chemical and toxicological characteristics:

11.1.7 Delayed and immediate effects as well as chronic effects from short and long-term exposure:

11.1.8 Interactive effects:

11.1.9 Absence of specific data:

11.1.10 Mixtures:

11.1.11 Mixture vs Substance information:

11.1.12 Other information:

Section 12: Ecological information

12.1 Toxicity: Specific test data for the substance or mixture is not available. Very toxic to aquatic life. (based on components). Toxic to aquatic life with long lasting effects.

0.01 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Methyl Ethyl Ketone – 78-93-3

Fish

96h LC50 Pimephales promelas: 3130 - 3320 mg/L
(flow-through)

Crustacea

48h EC50 Daphnia magna: = 5091 mg/L
48h EC50 Daphnia magna: > 520 mg/L
48h EC50 Daphnia magna: 4025 - 6440 mg/L Static

Ethyl Alcohol – 64-17-05

Algae/aquatic plants

96h EC50 Desmodesmus subspicatus: > 500 mg/L
72h EC50 Desmodesmus subspicatus: > 500 mg/L

Fish

96h LC50 Oncorhynchus mykiss: 12.0 - 16.0 mL/L (static)
96h LC50 Pimephales promelas: 13400 - 15100 mg/L
(flow-through)
96h LC50 Pimephales promelas: > 100 mg/L (static)

Crustacea

48h LC50 Daphnia magna: 9268 - 14221 mg/L
48h EC50 Daphnia magna: = 2 mg/L Static

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Propylene glycol monomethyl ether acetate 108-65-6

Fish

96h LC50 Pimephales promelas: = 161 mg/L (static)

Crustacea

48h EC50 Daphnia magna: > 500 mg/L

n-Propyl acetate – 109-60-4

Fish

96h LC50 Pimephales promelas: 56 - 64 mg/L (flow-through)

96h LC50 Pimephales promelas: 56 - 64 mg/L (static)

1-Butanol – 71-36-3

Fish

96h LC50 Pimephales promelas: 1730 - 1910 mg/L (static)

96h LC50 Pimephales promelas: = 1740 mg/L (flow-through)

96h LC50 Lepomis macrochirus: 100000 - 500000 µg/L (static)

96h LC50 Pimephales promelas: = 1910000 µg/L (static)

Crustacea

48h EC50 Daphnia magna: 1897 - 2072 mg/L Static

48h EC50 Daphnia magna: = 1983 mg/L

Isopropyl alcohol – 67-63-0

Algae/aquatic plants

72h EC50 Desmodesmus subspicatus: > 1000 mg/L

96h EC50 Desmodesmus subspicatus: > 1000 mg/L

Fish

96h LC50 Pimephales promelas: = 9640 mg/L (flow-through)

96h LC50 Lepomis macrochirus: > 1400000 µg/L

96h LC50 Pimephales promelas: = 11130 mg/L (static)

Crustacea

48h EC50 Daphnia magna: = 13299 mg/L

12.2 Persistence and degradability: Not determined

12.3 Bioaccumulative potential:

Methyl Ethyl Ketone – 78-93-3

Partition coefficient 0.3

Ethyl Alcohol – 64-17-05

Partition coefficient -.0.32

Propylene glycol monomethyl ether acetate 108-65-6

Partition coefficient 0.43

1-Butanol – 71-36-3

Partition coefficient 0.785

Isopropyl alcohol – 67-63-0

Partition coefficient 0.05



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- 12.4 **Mobility in soil:** Not determined
- 12.5 **Results of PBT and vPvB assessment:** Not determined
- 12.6 **Other adverse effects:** Not determined

Section 13: Disposal considerations

13.1 **Waste treatment methods:**

Contain and dispose of waste according to local regulations.

Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14: Transport information

| | | |
|------|--|--|
| 14.1 | UN number: | 1210 |
| 14.2 | Proper shipping name: | |
| | US DOT: | Printing Ink |
| | Canadian TDG: | Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable] |
| | European ADR/RID: | Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable] |
| | IMDG/IMO: | Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable] |
| | ICAO/IATA: | Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable] |
| 14.3 | Transport hazard class(es) : | 3 - FLAMMABLE LIQUID |
| 14.4 | Packing group: | II |
| 14.5 | Environmental hazards: | N/A |
| 14.6 | Special precautions for user: | N/A |
| 14.7 | Transport in bulk according to Annex II of Marpol and the IBC Code: | |
| | | N/A |

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Section 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

| EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists | | | | |
|---|---|--------------|-------------|--------------|
| CAS # | Hazardous components | S. 302 (EHS) | S. 304 RQ | S. 313 (TRI) |
| 78-93-3 | Methyl ethyl ketone | No | Yes 5000LB | No |
| 64-17-5 | Ethyl alcohol | No | No | No |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | No | No | No |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | No | Yes 5000 LB | Yes |
| 67-63-0 | Isopropyl alcohol | No | No | Yes |

| CAS # | Hazardous components | Canadian NPRI | Canadian Toxic | Canadian DSL |
|-----------------|---|---------------|----------------|--------------|
| 78-93-3 | Methyl ethyl ketone | Yes | No | Yes |
| 64-17-5 | Ethyl alcohol | Yes | No | Yes |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | Yes | No | Yes |
| 109-60-4 | n-Propyl acetate | Yes | | |
| 71-36-3 | 1-Butanol | Yes | No | Yes |
| 67-63-0 | Isopropyl alcohol | Yes | No | Yes |

| CAS # | Hazardous components | CAA HAP, ODC | CWA NPDES | TSCA |
|-----------------|---|--------------|-----------|-----------|
| 78-93-3 | Methyl ethyl ketone | No | No | Yes - Inv |
| 64-17-5 | Ethyl alcohol | No | No | Yes - Inv |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |

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| | | | | |
|------------|---|-------|----|---------|
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | No | No | Yes-Inv |
| 67-63-0 | Isopropyl alcohol | No | No | Yes-Inv |
| 34590-94-8 | Dipropylene glycol monomethyl ether | < 0.5 | | |

| CAS # | Hazardous components | CA Prop 65 | Mexico INSQ | Australia ICS |
|-----------------|---|--------------------------|-------------|---------------|
| 78-93-3 | Methyl ethyl ketone | No | Yes - 1193 | Listed |
| 64-17-5 | Ethyl alcohol | Carcinogen Developmental | Listed | Listed |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | No | Yes | Yes |
| 67-63-0 | Isopropyl alcohol | No | Yes – 1219 | Yes |

| CAS # | Hazardous components | New Zealand IOC | China IECSC | Japan ENCS |
|-----------------|---|-----------------|-------------|-------------|
| 78-93-3 | Methyl ethyl ketone | Listed | Listed | Yes - 2-542 |
| 64-17-5 | Ethyl alcohol | Listed | Listed | Yes - 5-153 |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | Yes | Yes | Yes 7-321 |
| 67-63-0 | Isopropyl alcohol | Yes | Yes | Yes 2-207 |

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| CAS # | Hazardous components | Japan ISHL | Korea ECL | Philippines |
|-----------------|---|------------------|----------------|-------------|
| 78-93-3 | Methyl ethyl ketone | Listed | Yes KE-24094 | Listed |
| 64-17-5 | Ethyl alcohol | No | Yes KE-13217 | Listed |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | Yes 2-(8)-299 | Yes KE-03867 | Yes |
| 67-63-0 | Isopropyl alcohol | Yes - 2-(8)-319; | Yes - KE-29363 | Yes |

| CAS # | Hazardous components | Taiwan TCSCA | Singapore HSL | Israel HSL: |
|-----------------|---|--------------|---------------|-------------|
| 78-93-3 | Methyl ethyl ketone | Listed | No | No |
| 64-17-5 | Ethyl alcohol | Listed | No | Yes -Cat |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | Yes | No | Yes Cat |
| 67-63-0 | Isopropyl alcohol | Yes | No | Yes Cat |

| CAS # | Hazardous components | Germany WHCS | Switzerland Giftliste 1 | Switzerland INNS |
|-----------------|---|--------------|-------------------------|------------------|
| 78-93-3 | Methyl ethyl ketone | Yes – 150 | Yes G-2429 | No |
| 64-17-5 | Ethyl alcohol | Yes – 96 | Yes G-1158 | No |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |

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| | | | | |
|---------|-------------------|-----------|------------|----|
| 71-36-3 | 1-Butanol | Yes – 39 | Yes G-1321 | No |
| 67-63-0 | Isopropyl alcohol | Yes - 135 | Yes G-1712 | No |

| CAS # | Hazardous components | REACH | Kyoto GHG | Rotterdam |
|-----------------|---|------------------------|-----------|-----------|
| 78-93-3 | Methyl ethyl ketone | Yes - (R), (P) | No | No |
| 64-17-5 | Ethyl alcohol | Yes - (R), (P) | No | No |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | REACH: Yes - (R), (P); | No | No |
| 67-63-0 | Isopropyl alcohol | REACH: Yes - (R), (P); | No | No |

| CAS # | Hazardous components | Stockholm | | |
|-----------------|---|-----------|--|--|
| 78-93-3 | Methyl ethyl ketone | No | | |
| 64-17-5 | Ethyl alcohol | No | | |
| NOT ESTABLISHED | Quaternary ammonium compounds, C12-14 (even-numbered) - alkylethyldimethyl, ethyl sulphates | | | |
| 108-65-6 | Propylene glycol monomethyl ether acetate | | | |
| 109-60-4 | n-Propyl acetate | | | |
| 71-36-3 | 1-Butanol | No | | |
| 67-63-0 | Isopropyl alcohol | No | | |

Canadian WHMIS Classification:

NA

15.2 Chemical safety assessment



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Section 16: Other information

Revision Date: 5/6/19

Revision Notes: Updated format. New Methanol Free Recipe.

Additional Information:

Company Disclaimer:

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