


1 - Identification

| | |
|--------------------------------------|--|
| Product identifier | Smart-Jet® 81850 |
| Other means of identification | Not available. |
| Synonym(s) | Not available. |
| Recommended use | Inkjet Printing |
| Recommended restrictions | None Known. |
| Issue date | 22-Aug-2018 |
| Company identification | MSSC, LLC. 926 McDonough Lake Road, Collinsville, IL 62234, USA Tel: 618-343-1006 Website: www.msscllc.com |

2 - Hazard(s) identification

| | |
|--------------------------------|---|
| Physical hazards | Flammable liquids. Category 2 |
| Health hazards | Acute toxicity, Oral (Category 3), H301 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Skin irritation (Category 2), H315 Serious eye damage (Category 1), H318 Specific target organ toxicity - single exposure (Category 1), H370 |
| Label elements |  |
| Signal word | Danger |
| Hazard statement | H225- Highly flammable liquid and vapor. H301+H311+H331- Toxic if swallowed, in contact with skin or if inhaled. H370- Causes damage to the central nervous system and optic nerve. H315- Causes skin irritation. H318- Causes serious eye damage. |
| Precautionary statement | |
| 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/equipment. P242 - Use only non-sparking tools. P243 - Take precautionary measures against static discharge. P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P264 - Wash thoroughly after handling. P280 - Wear protective gloves/protective clothing/eye protection/face protection. |

P370+P378- In case of fire: for small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam to extinguish. For large fires, use water spray, fog, or alcohol-resistant foam to extinguish. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.


Storage

P403 + P235 - Store in a well-ventilated place. Keep cool.

Disposal

P501- Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

 **WARNING** This product can expose you to chemicals including methanol, 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.

Environmental hazards

Not available

3 - Composition/information on ingredients

| Mixtures | CAS Number | % |
|----------------------|-------------|-----|
| Ethanol | 64-17-5 | >50 |
| Methanol | 67-56-1 | ≤20 |
| n-butanol | 71-36-3 | ≤5 |
| 1-methoxy-2-propanol | 107-98-2 | <5 |
| Cyclohexanone | 108-94-1 | ≤5 |
| Acetone | 67-64-1 | <5 |
| Black dye mixture | Proprietary | <10 |

4. First-aid measures

Inhalation

Move person to fresh air immediately.
If symptoms persist, get immediate medical attention.

Skin contact

In case of contact, immediately remove contaminated clothing and flush skin with copious amounts of water. Wash clothing separately before reuse.
Get medical attention, if needed.

Eye contact

In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Get medical attention immediately.

Ingestion

Rinse mouth out with water. If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting. Never give anything by mouth to an unconscious person.
Get medical attention immediately.

Most important symptoms/ effects, acute and delayed

See section 8.

5. Fire-fighting measures

| | |
|--|--|
| FLASH POINT: | 13°C (closed-cup). |
| Suitable extinguishing media | Suitable extinguishing media: sand, carbon dioxide (CO ₂) or dry chemical. |
| Unsuitable extinguishing media | Not available. |
| Specific hazards arising from the chemical | Not applicable. |
| Special protective equipment and precautions for firefighters | Firefighters should wear full protective clothing including self-contained breathing apparatus. Avoid run off into storm sewers and ditches which lead to waterways. |
| Fire-fighting equipment/instructions | Move containers from fire area if you can do it without risk. |

6. Accidental release measures

| | |
|--|---|
| Personal precautions, protective equipment and emergency procedures | Avoid contact with skin. Avoid inhalation of vapors or mists. Do not touch or walk through spilled material. Ensure adequate ventilation. Remove all sources of ignition. Use personal protective equipment to minimize exposure to skin and eye. In the case of vapor formation use a respirator with an approved filter. |
| Environmental precautions | Do not flush into surface water or sanitary sewer system. |
| Methods and materials for containment and cleaning up | Not available. |

7. Handling and storage

| | |
|---|---|
| Precautions for safe handling | Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists of this product. Use with adequate ventilation. Wear personal protective equipment. |
| Conditions for safe storage, including any incompatibilities | Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. |

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR1910.1000)

| Components | Type | Value |
|------------------------------|------|------------------------------------|
| Ethanol (CAS 64-17-5) | PEL | 1900 mg/m ³ 1000 ppm |
| Methanol (CAS 67-56-1) | PEL | 260mg/m ³ 200ppm |
| n-Butanol (CAS 71-36-3) | TWA | 300 mg/m ³ 100 ppm |
| Cyclohexanone (CAS 108-94-1) | PEL | 200mg/m ³ 50ppm |

| | | |
|-----------------------|-----|----------------------------------|
| Acetone (CAS 67-64-1) | PEL | 2400mg/m ³ 1000ppm |
|-----------------------|-----|----------------------------------|

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|-------------------------------------|-------------|--------------|
| Ethanol (CAS 64-17-5) | STEL | 1000 ppm |
| Methanol (CAS 67-56-1) | STEL | 250ppm |
| n-Butanol (CAS 71-36-3) | TWA | 20ppm |
| 1-methoxy-2-propanol (CAS 107-98-2) | STEL | 150ppm |
| Cyclohexanone (CAS 108-94-1) | STEL | 50ppm |
| Acetone (CAS 67-64-1) | STEL | 750ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|-------------------------------------|-------------|------------------------------------|
| Ethanol (CAS 64-17-5) | TWA | 1900 mg/m ³ 1000 ppm |
| Methanol (CAS 67-56-1) | TWA | 260mg/m ³ 200ppm |
| n-Butanol (CAS 71-36-3) | REL | 50ppm 150mg/m ³ |
| 1-methoxy-2-propanol (CAS 107-98-2) | TWA | 360mg/m ³ 150ppm |
| Cyclohexanone (CAS 108-94-1) | TWA | 100mg/m ³ 25ppm |
| Acetone (CAS 67-64-1) | TWA | 590mg/m ³ 250ppm |

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering Controls Not available.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses; chemical goggles (if splashing is possible). Eye wash fountain and emergency showers are recommended.

Skin protection

Hand protection Not available.

Other Wear appropriate chemical resistant clothing.
Wear appropriate chemical resistant gloves.

Respiratory protection Provide adequate ventilation. In case of insufficient ventilation wear suitable respiratory equipment.

Thermal hazards Not available.

General hygiene considerations Do not get this material in contact with skin. Avoid contact with skin, eyes and clothing.
When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.
Launder contaminated clothing before reuse.

9. Physical and chemical properties

| | |
|---|--------------------|
| Appearance | Black liquid |
| Odor | Vinous odor |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point; | Not available. |
| Initial boiling point and boiling range | >70°C |
| Flash point | 13°C (closed-cup) |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower(%) | Not available. |
| Explosive limit - upper(%) | Not available. |
| Vapor pressure | Not available. |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | Soluble in ethanol |
| Partition coefficient: n-octanol/water | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity (cPs) | Not available |

10. Stability and reactivity

| | |
|---|------------------------------|
| Reactivity | Not available. |
| Chemical stability | Stable at normal conditions. |
| Possibility of hazardous reactions | None known. |
| Conditions to avoid | Heat, flames and sparks. |
| Incompatible materials | Not available. |

Hazardous decomposition products Not available.

11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

Acute toxicity value

| Components | Species | Test results |
|--|-----------------------------------|--|
| Ethanol (CAS 64-17-5) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Mouse Rat | 39 mg/l, 4 Hours 20000 mg/l, 10 Hours |
| Oral | | |
| LD50 | Dog Guinea pig Mouse Rat | 5.5 g/kg 5.6 g/kg Mouse 3450 mg/kg Rat 7060 mg/kg 6.2 g/kg |
| Methanol (CAS 67-56-1) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Rat | 128.2mg/l, 4 Hours 87.6mg/l, 6 Hours |
| Oral | | |
| LD50 | Rat | 1.187 - 2.769 mg/kg |
| LDLO | Human | 143mg/kg |
| n-Butanol (CAS 71-36-3) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Rat | 8000 mg/l, 4 Hours |
| Dermal | | |
| LD50 | Rabbit | 3,400mg/kg |
| Oral | | |
| LD50 | Rat | 790mg/kg |
| 1-methoxy-2-propanol (CAS 107-98-2) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Rat | 10,000 mg/l, 5 Hour |
| Oral | | |

| | | |
|--------|--------|-------------|
| LD50 | Mouse | 11,700mg/kg |
| Dermal | | |
| LC50 | Rabbit | 13,000mg/kg |

**Cyclohexanone
(CAS 108-94-1)**

Acute

Inhalation

| | | |
|------|-----|-----------------|
| LC50 | Rat | > 6.2 mg/l, 4 h |
|------|-----|-----------------|

Dermal

| | | |
|------|--------|-------------|
| LD50 | rabbit | 3,160 mg/kg |
|------|--------|-------------|

Oral

| | | |
|------|-----|-------------|
| LD50 | Rat | 1,534 mg/kg |
|------|-----|-------------|

Acetone (CAS 67-64-1)

Acute

Inhalation

| | | |
|------|-----|--------------------------|
| LC50 | Rat | 50.100 mg/m ³ |
|------|-----|--------------------------|

Oral

| | | |
|------|-----|-------------|
| LD50 | Rat | 5.800 mg/kg |
|------|-----|-------------|

Dermal

| | | |
|------|------------|-------------|
| LD50 | Guinea pig | 7.426 mg/kg |
|------|------------|-------------|

Skin corrosion/irritation

Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.

Serious eye damage/eye irritation

Eye Contact: May cause eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: Harmful if swallowed.

Respiratory sensitization

Based on available data, the classification criteria are not met.

Skin sensitization

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Specific target organ toxicity - single exposure

Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

12. Ecological information

Aquatic toxicity

Eco toxicity

Components

Species

Test Results

Ethanol (CAS 64-17-5)

Aquatic

| | | | |
|-----------|------|---|-----------------------|
| Crustacea | EC50 | Water flea (<i>Daphnia magna</i>) | 7.7 - 11.2 mg/l, 48 h |
| Fish | LC50 | Fathead minnow (<i>Pimephales promelas</i>) | > 100 mg/l, 96 h |

Methanol (CAS 67-56-1)

| | | | |
|-----------|--------------|---|--|
| Fish | LC50 NOEC | <i>Lepomis macrochirus</i> (Bluegill) <i>Oryzias latipes</i> | 15.400,0 mg/l - 96 h 7.900 mg/l - 200 h |
| Crustacea | EC50 | Water flea (<i>Daphnia magna</i>) | 10.000,00 mg/l - 48 h |

n-Butanol (CAS 71-36-3)

| | | | |
|---|------|---|-------------------|
| Fish | LC50 | Fathead minnow (<i>Pimephales promelas</i>) | 1,840 mg/l, 96 h |
| Daphnia and other aquatic invertebrates | EC50 | <i>Daphnia magna</i> (Water flea) | 1,983 mg/l - 48 h |

**Cyclohexanone
(CAS 108-94-1)**

| | | | |
|---|------|-----------------------------------|-----------------|
| Daphnia and other aquatic invertebrates | LC50 | <i>Daphnia magna</i> (Water flea) | 820 mg/l - 24 h |
|---|------|-----------------------------------|-----------------|

Acetone (CAS 67-64-1)

| | | | |
|---|------|--|-------------------|
| Fish | LC50 | <i>Oncorhynchus mykiss</i> (rainbow trout) | 5.540 mg/l - 96 h |
| Daphnia and other aquatic invertebrates | LC50 | <i>Daphnia magna</i> (Water flea) | 8.800 mg/l - 48 h |

Persistence and degradability Not available.

Bioaccumulative potential Not available.

**Partition coefficient n-octanol /
water (log Kow)**

| | |
|--|-------|
| Ethanol (CAS 64-17-5) | -0.31 |
| Methanol (CAS 67-56-1) | -0.77 |
| n-Butanol (CAS 71-36-3) | 0.88 |
| 1-methoxy-2-propanol (CAS 107-98-2) | -0.49 |
| Cyclohexanone(CAS 108-94-1) | 0.81 |
| Acetone (CAS 67-64-1) | -0.24 |

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

| | |
|--|--|
| Disposal instructions | Do not dispose of together with general office waste. Do not allow this material to drain into sewers/water supplies. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Ensure collection and disposal with an appropriately licensed waste contractor. |
| Local disposal regulations | Not available. |
| Hazardous waste code | Not regulated. |
| Waste from residues / unused products | Not available. |
| Contaminated packaging | Not available |

14. Transport information

DOT

| | |
|-------------------------------------|---|
| UN number | UN1210 |
| UN proper shipping name | Printing ink, flammable (Ethanol, Methanol, n-Butanol, 1-methoxy-2-propanol,Cyclohexanone, Acetone) |
| Transport hazard class(es) | 3 |
| Subsidiary class(es) | Not available. |
| Packing group | II |
| Special precautions for user | Passenger aircraft Quantity limitation: 5 L Cargo aircraft Quantity limitation: 60 L |
| Labels required | Not available. |

IATA

| | |
|-----------------------------------|---|
| UN number | UN1210 |
| UN proper shipping name | Printing ink, flammable (Ethanol, Methanol, n-Butanol, 1-methoxy-2-propanol,Cyclohexanone, Acetone) |
| Transport hazard class(es) | 3 |
| Subsidiary class(es) | - |
| Packaging group | II |
| Environmental hazards | No |
| Labels required | Not available. |
| ERG Code | Not available. |
| Special precautions for | Passenger and Cargo Aircraft |

user Quantity limitation: 5 L
Cargo Aircraft Only
Quantity limitation: 60 L
Limited Quantities - Passenger Aircraft
Quantity limitation: 1 L.

IMDG

UN number UN1210

UN proper shipping name Printing ink, flammable (Ethanol, Methanol, n-Butanol, 1-methoxy-2-propanol, Cyclohexanone, Acetone)

Transport hazard class(es) 3

Subsidiary class(es) -

Packaging group II

Environmental hazards

Marine pollutant No

Labels required Not available.

Ems Not available.

Special precautions for user Not available.

Section 15 - Regulatory Information

US federal regulations US EPA TSCA Inventory: All chemical substances in this product comply with all rules or orders under TSCA.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) n-Butanol (CAS 71-36-3)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not on regulatory list.

CERCLA Hazardous Substance List (40 CFR 302.4)

Methanol (CAS 67-56-1) Reportable quantity: 5000 lbs.

1-methoxy-2-propanol (CAS 107-98-2) Reportable quantity: 5000 lbs

Cyclohexanone(CAS 108-94-1) Reportable quantity: 5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard – No

| | |
|---|---|
| SARA 302 Extremely hazardous substance | No |
| SARA 311/312 Hazardous chemical | No |
| US state regulations | |
| US. Massachusetts RTK - Substance List | Ethanol(CAS 64-17-5) Methanol (CAS 67-56-1) n-Butanol (CAS 71-36-3) 1-methoxy-2-propanol (CAS 107-98-2) Cyclohexanone (CAS 108-94-1) |
| US. New Jersey Worker and Community Right-to-Know Act | Methanol (CAS 67-56-1) n-Butanol (CAS 71-36-3) Cyclohexanone (CAS 108-94-1) |
| US. Pennsylvania RTK - Hazardous Substances | Ethanol (CAS 64-17-5) Methanol (CAS 67-56-1) n-Butanol (CAS 71-36-3) 1-methoxy-2-propanol (CAS 107-98-2) Cyclohexanone (CAS 108-94-1) |
| US. Rhode Island RTK | Ethanol (CAS 64-17-5) Cyclohexanone (CAS 108-94-1) Acetone (CAS 67-64-1) |
| US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance | Methanol (CAS 67-56-1) |

Section 16 - Other Information

| | |
|----------------------|--|
| Issue date | 22-August-2018 |
| Revision date | 25-January-2019 |
| Version # | 04 |
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