

Section 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product name **Smart-Jet® 81870**

Synonym(s) Not available

Registration number REACH Not applicable (mixture)

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

Recommended use Ink for inkjet printing

1.3. Details of the supplier of the safety data sheet

Company identification **MSSC, LLC.**
926 McDonough Lake Road, Collinsville, IL 62234, USA
Tel: 618-343-1006
Website: www.msscllc.com

1.4. Emergency telephone number

Phone number: 618-343-1006

Section 2: Hazard(s) identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008 [CLP]:**

Physical hazards Flammable liquids. Category 2, H225

Health hazards Acute toxicity, Oral (Category 3), H301
Acute toxicity, Inhalation (Category 3), H331
Acute toxicity, Dermal (Category 3), H311
Specific target organ toxicity - single exposure (Category 1), H370
Eye irritation (Category 2), H319
Hazardous to the aquatic environment, long-term hazard (Category 3), H412

2.2. Label elements**Labeling according to Regulation (EC) No 1272/2008 [CLP]:**

Pictograms



GHS02 GHS06 GHS08 GHS07

Signal word Danger

Hazard statements 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.
H319- Causes serious eye irritation.
H412- Harmful to aquatic life with long lasting effects

Precautionary statements

Prevention P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.

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.
 P270 - Do not eat, drink or smoke when using this product.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.

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.
 P308+P313: IF exposed or concerned: Get medical advice/attention.
 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

Storage
 P403 + P235 - Store in a well-ventilated place. Keep cool.
 P405 - Store locked up.

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

2.3. Other hazards

PBT Substances None
 vPvB Substances: None
 Other hazards No other hazards

Section 3: Composition/information on ingredients

3.1. Substance No

3.2. Mixtures

Hazardous Components (Chemical Name)/ REACH Registration No.	CAS Number	Concentration (%)	EC No./ EC index No	Classification
Methanol	67-56-1	≤ 25	200-659-6 603-001-00-X	Flam. Liq. 2: H225 Acute Tox.(O) 3: H301 Acute Tox.(D) 3: H311 Acute Tox.(I) 3: H331 STOT (SE) 1: H370
2-Butanone	78-93-3	<25	201-159-0 606-002-00-3	Flam. Liq. 2: H225 Eye Irrit. 2: H319 STOT SE 3: H336
Ethanol	64-17-5	>21	200-578-6 603-002-00-5	Flam. Liq. 2: H225 Eye Irrit. 2: H319
Dipropylene glycol methyl ether acetate	88917-22-0	<10	618-219-0	Skin Irrit. 2: H315 Eye Irrit. 2:H319 STOT SE 3:H335
1-methoxy-2-propanol	107-98-2	≤5	203-539-1 603-064-00-3	Flam. Liq. 3: H226 STOT SE 3: H336

Cyclohexanone	108-94-1	<5	203-631-1 606-010-00-7	Flam. Liq. 3:H226 Acute Tox.(I) 4: H332
Black dye	Proprietary	<9	Proprietary	Aquatic Chronic 2: H411

Section 4: First-aid measures

4.1. Description of first aid measures

In case of:

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.

4.2. Most important symptoms/ effects, acute and delayed

See section 11

4.3. Indication of any immediate medical attention and special treatment needed

No special treatment needed, treat symptomatically.

Section 5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media sand, carbon dioxide (CO₂) or dry chemical.

Unsuitable extinguishing media Not available.

5.2. Special hazards arising from the substance or mixture

In case of fire, smoke and other combustion products may be formed, the inhalation of such combustion products can have serious adverse effects on health.

5.3. Advice for firefighters

Wear suitable protective suit and self-contained breathing apparatus.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear appropriate personal protective equipment as specified in section 8.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

Absorb or cover with dry earth, sand or other non-combustible material and transfer to sealable containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

6.4. Reference to other sections

For further and detailed information see section 8 and 13.

Section 7. Handling and storage

7.1 Precautions for safe handling For further precautions information see section 2.2.

7.2 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.

7.3 Specific end uses

No specific uses are stipulated.

Section 8. Exposure controls/personal protection

8.1 Control parameters National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Notation	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Source
EU	Methanol	67-56-1		IOELV	200	260			2006/15/EC
IE	Methanol	67-56-1		OELV	200	260			S.I. No. 619 of 2001
EU	1-methoxy-2-propanol	107-98-2		IOELV	100	375	150	568	2000/39/EC
MT	1-methoxy-2-propanol	107-98-2		OELV	100	375	150	568	CAP. 424
EU	Cyclohexanone	108-94-1		IOELV	10	40.8	20	81.6	2000/39/EC
MT	Cyclohexanone	108-94-1		OELV	10	40.8	20	81.6	L.N. 227
IE	2-Butanone	78-93-3		OELV	200	600	300	900	2000/39/EC
GB	2-Butanone	78-93-3		WEL	200	600	300	899	EH40/2005
	Ethanol	64-17-5	Data are not available						
	Dipropylene glycol methyl ether acetate	88917-22-0	Data are not available						

Relevant DNELs/DMELs/PNECs and other threshold levels

- human health values

	End point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Methanol	DNEL	260mg/m ³	human, inhalatory	worker (industry)	acute - local effects
	DNEL	40mg/kg	human, dermal	worker (industry)	acute- systemic effects
	DNEL	260mg/m ³	human, inhalatory	worker (industry)	acute- systemic effects
	DNEL	260mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
	DNEL	40mg/kg	human, dermal	worker (industry)	Chronic- systemic effects
Ethanol	DNEL	260mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
	DNEL	1.900 mg/m ³	human, inhalatory	worker (industry)	acute- systemic effects
	DNEL	343 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
1-methoxy-2-propanol	DNEL	950 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
	DNEL	553.5 mg/m ³	human, inhalatory	worker (industry)	acute- systemic effects
	DNEL	369 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Cyclohexanone	DNEL	183 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
	DNEL	20 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
	DNEL	20 mg/m ³	human, inhalatory	worker (industry)	chronic – local effects
2-Butanone	DNEL	20 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
	DNEL	600 mg/m ³	human, inhalatory	worker (industry)	acute- systemic effects
	DNEL	600 mg/m ³	human, inhalatory	worker (industry)	acute- systemic effects

- environmental values

	End point	Threshold level	Environmental compartment
Methanol	PNEC	20,8 mg/l	freshwater
	PNEC	2,08 mg/	marine water
	PNEC	100 mg/l	sewage treatment plant (STP)
	PNEC	77 mg/kg	freshwater sediment
	PNEC	7,7 mg/kg	marine sediment
	PNEC	100 mg/kg	soil
Ethanol	PNEC	0,79 mg/cm ³	marine water
	PNEC	2,75 mg/cm ³	air
	PNEC	3,6 mg/cm ³	freshwater sediment
	PNEC	580 mg/cm ³	sewage treatment plant (STP)
	PNEC	0,63 mg/cm ³	soil
	PNEC	0,96 mg/cm ³	freshwater
1-methoxy-2-propanol	PNEC	10 mg/L	freshwater
	PNEC	1 mg/L	marine water
	PNEC	100 mg/L	sewage treatment plant (STP)
	PNEC	5.2 mg/kg	freshwater sediment
	PNEC	4.59 mg/kg	soil
Cyclohexanone	PNEC	0,0329 mg/cm ³	marine water
	PNEC	0,0951 mg/cm ³	freshwater sediment
	PNEC	0,0329 mg/cm ³	freshwater
	PNEC	0,0143 mg/cm ³	soil
2-Butanone	PNEC	55,8 mg/cm ³	marine water
	PNEC	284,7 mg/cm ³	freshwater sediment
	PNEC	709 mg/cm ³	sewage treatment plant (STP)
	PNEC	22.5 mg/cm ³	soil
	PNEC	55,8 mg/cm ³	freshwater

8.2 Exposure controls

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 and body protection

Protective suit, Safety shoes.

Hand protection



Wear appropriate chemical resistant gloves.

Respiratory protection

Product name: Smart-Jet® 81870
Version: 1.0

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.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Black liquid
Odor	Characteristic
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point;	Not available.
Initial boiling point and boiling range	>70°C
Flash point	18°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 alcohol.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity (cPs)	Not available.
9.2 Other information	Not available.

Section 10. Stability and reactivity

10.1 Reactivity	Not available.
10.2 Chemical stability	Stable at normal conditions.
10.3 Possibility of hazardous reactions	None known.
10.4 Conditions to avoid	Heat, flames and sparks.

10.5 Incompatible materials Not available.

10.6 Hazardous decomposition products Hazardous combustion products: see section 5

Section 11. Toxicological information

11.1 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) (LDLO)	Rat Human	1.187 - 2.769 mg/kg 143mg/kg
Dermal (LD50)	Rabbit	17.100 mg/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 (LD50)	Rabbit	13,000mg/kg
Cyclohexanone (CAS 108-94-1)		
Acute		
Inhalation (LC50)	Rat	> 6.2 mg/l, 4 Hours
Dermal (LD50)	rabbit	3,160 mg/kg
Oral (LD50)	Rat	1,534 mg/kg
2-Butanone (CAS 78-93-3)		
Acute		
Inhalation (LC50)	Mouse Mammal	4 h - 32.000 mg/m3 38.000 mg/m3
Oral (LD50)	Rat	2.737 mg/kg
Dermal (LD50)	Rabbit	6.480 mg/kg
Skin corrosion/irritation	Not available.	
Serious eye damage/eye irritation	Eye Contact: May cause eye irritation.	
Respiratory sensitization	Not available.	
Skin sensitization	Not available.	
Germ cell mutagenicity	Not available.	

Carcinogenicity	Not available.
Specific target organ toxicity - single exposure	Causes damage to the central nervous system and optic nerve.
Specific target organ toxicity - repeated exposure	Not available.
Aspiration hazard	Not available.

Section 12. Ecological information

12.1 Toxicity

Aquatic 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 hours
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	> 100 mg/l, 96 hours
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>)	0.000,00 mg/l - 48 h
1-methoxy-2-propanol (CAS 107-98-2)			
Fish	LC50	<i>Oncorhynchus mykiss</i> (rainbow trout)	>1000 mg/l - 96 h
Cyclohexanone (CAS 108-94-1)			
Daphnia and other aquatic invertebrates	LC50	<i>Daphnia magna</i> (Water flea)	820 mg/l - 24 h
2-Butanone (CAS 78-93-3)			
Aquatic			
Daphnia and other aquatic invertebrates	LC50	Water flea (<i>Daphnia magna</i>)	520 mg/l - 48 h
Fish	NOEC	<i>Cyprinodon variegatus</i> (sheepshead minnow)	400 mg/l - 96 h
	LC50	<i>Pimephales promelas</i> (fathead minnow)	3.130 - 3.320 mg/l - 96 h
12.2 Persistence and degradability	Not available.		
12.3 Bioaccumulative potential	Not available.		
12.4 Mobility in soil	Not available.		
12.5 Results of PBT and vPvB assessment	Not available.		
12.6 Other adverse effects	Not available.		

Section 13. Disposal considerations

13.1 Waste treatment methods

Product Dispose of waste material in accordance with local, state and federal pollution regulations.

Contaminated packaging When disposing of an empty container, dispose after removing contents materials completely. Only store in correctly labelled containers.

Section 14. Transport information

14.1 UN number

ADR/RID: UN1210 **IMDG:** UN1210 **ICAO-IATA/DGR:** UN1210

14.2 UN proper shipping name

ADR/RID: Printing Ink **IMDG:** Printing Ink **ICAO-IATA/DGR:** Printing Ink

14.3 Transport hazard class(es)

ADR/RID: Class 3 **IMDG:** Class 3 **ICAO-IATA/DGR:** Class 3

14.4 Packing group

ADR/RID: II **IMDG:** II **ICAO-IATA/DGR:** II

14.5 Environmental hazards None

14.6 Special precautions for user None

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code Not applicable

Section 15 - Regulatory Information

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

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Guidance Workplace Exposure Limits EH40. Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment No chemical safety assessment has been carried out.

Section 16 - Other Information

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Revision date -

Version # 1.0

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