

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

Product name **Smart-Jet® 85440**

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.msscillc.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 Serious eye damage/eye irritation (Category 1), H318
Skin corrosion/irritation (Category 2), H315
Specific target organ toxicity, single exposure; Narcotic effects (Category 3), H336

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

Pictograms



GHS02 GHS05 GHS07

Signal word Danger

Hazard statements H318- Causes serious eye damage
H315-Causes skin irritation
H336-May cause drowsiness or dizziness

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.

P264+P265-Wash hands [and ...] thoroughly after handling. Do not touch eyes.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response	P303+P361+P353: IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower]. P305+P354+P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. P332+P317: If skin irritation occurs: Get medical help. P362+P364: Take off contaminated clothing and wash it before reuse. 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
2-Butanone	78-93-3	>54	201-159-0 606-002-00-3	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3: H336
Acetone	67-64-1	≤23	200-662-2 606-001-00-8	Flam. Liq. 1: H225 Eye Irrit. 2: H319 STOT SE 3: H336
Cyclohexanone	108-94-1	≤15	203-631-1 606-010-00-7	Flam. Liq. 3:H226 Acute Tox.(I) 4: H332 Acute Tox.(O) 4: H302 Acute Tox.(D) 4: H312 Skin Irrit. 2: H315 Eye Dam. 1: H318
Solvent Red dye	Proprietary	≤8	Proprietary	Not Classified

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
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
EU	Acetone	67-64-1		IOELV	500	1210			2000/39/EC
GB	Acetone	67-64-1		WEL	500	1210	1500	3,620	EH40/2005

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

Relevant DNELs/DMELs/PNECs and other threshold levels

- human health values

	End point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
2-Butanone	DNEL	600 mg/m ³	human, inhalatory	worker (industry)	acute- systemic effects
	DNEL	1161 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
Acetone	DNEL	2.400 mg/m ³	human, inhalatory	worker (industry)	acute- systemic effects
	DNEL	1 210 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
	DNEL	186 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
Cyclohexanone	DNEL	20 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
	DNEL	20 mg/m ³	human, inhalatory	worker (industry)	chronic – local effects
	DNEL	20 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects

- environmental values

	End point	Threshold level	Environmental compartment
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
Acetone	PNEC	55,8 mg/cm ³	freshwater
	PNEC	10.6 mg/L	freshwater
	PNEC	1.06 mg/L	marine water
	PNEC	100 mg/L	sewage treatment plant (STP)
Cyclohexanone	PNEC	30.4 mg/kg	freshwater sediment
	PNEC	29.5 mg/kg	soil
	PNEC	0,0329 mg/cm ³	marine water
	PNEC	0,0951 mg/cm ³	freshwater sediment
Cyclohexanone	PNEC	0,0329 mg/cm ³	freshwater
	PNEC	0,0143 mg/cm ³	soil

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	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	Red 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	1°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 ketone.
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.
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Product name: Smart-Jet® 85440
Version: 1.0

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
2-Butanone (CAS 78-93-3)		
Acute		
Inhalation (LC50)	Mouse Mammal	4 h - 32.000 mg/m ³ 38.000 mg/m ³
Oral (LD50)	Rat	2.737 mg/kg
Dermal (LD50)	Rabbit	6.480 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
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
Skin corrosion/irritation	Causes skin irritation	
Serious eye damage/eye irritation	Causes serious eye damage	
Respiratory sensitization	Not available.	
Skin sensitization	Not available.	
Germ cell mutagenicity	Not available.	
Carcinogenicity	Not available.	
Specific target organ toxicity - single exposure	May cause drowsiness or dizziness	
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
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2-Butanone (CAS 78-93-3)

Aquatic

Daphnia and other aquatic invertebrates	LC50	Water flea (Daphnia magna)	520 mg/l - 48 h
Fish	NOEC	Cyprinodon variegatus (sheepshead minnow)	400 mg/l - 96 h
	LC50	Pimephales promelas (fathead minnow)	3.130 - 3.320 mg/l - 96 h

Acetone (CAS 67-64-1)

Fish	LC50	Oncorhynchus mykiss (rainbow trout)	5.540 mg/l - 96 h
Daphnia and other aquatic invertebrates	LC50	Daphnia magna (Water flea)	8,800 mg/l - 48 h

Cyclohexanone (CAS 108-94-1)

Daphnia and other aquatic invertebrates	LC50	Daphnia magna (Water flea)	820 mg/l - 24 h
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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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Version #	1.0
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