

1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND OF THE COMPANY

Product Name : 77001-00143, Solvent
Use of the substance/preparation: Solvent for industrial ink jet printers (CIJ-printers)
Supplier : Paul Leibinger GmbH & Co. KG
Daimlerstr. 14
78532 Tuttlingen
Germany
Phone: +49 7461 92 86-0 Fax: +49 7461 92 86-199
www.leibinger-group.com

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazard categories:

Flammable liquid: Flam. Liq. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Specific target organ toxicity - single exposure: STOT SE 3

2.2. Label elements

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

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P240 Ground/bond container and receiving equipment.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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

2.3. Other hazards

In principle all chemicals are particularly dangerous. Therefore they are to be handled only by specially trained personnel with the necessary care. The disposal of this product requires the expertise resp. an annual instruction according to ChemVerbotsV.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substances

not applicable

3.2. Mixtures

Mixture of organic solvents

Hazardous components

Name of substance		
CAS-No.	EC-No.	REACH-No.
Symbol of danger	R-Phrase	Wt.- %
Hazard class	H-Phrase	

Butanone		
78-93-3	201-159-0	01-2119457290-43-000
Xi, F, GHS02, GHS07	11-36-66-67	60-90
Flam. Liq.2, Eye Irrit.2, STOT SE3	225,319,336,EUH066	

Ethanol		
64-17-5	200-578-6	01-2119457610-43-000
F, GHS02	11	10-30
Flam. Liq.2	225	

Full text of each relevant R- & H- phrase can be found in heading 16.

4. FIRST AID MEASURES

4.1. Description of first aid measures

General information:

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove contaminated, saturated clothing immediately. If victim is at risk of losing consciousness, position and transport on their side.

After inhalation

Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. Seek medical attention if problems persist.

After contact with skin

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation). Use protective skin cream before handling the product. In case of skin irritation, consult a physician.

After contact with eyes

If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Keep at rest. Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. Aspiration hazard. Do not give fatty oils and milk. Do not allow a neutralisation agent to be drunk. Call a physician immediately..

4.2. Most important symptoms and effects, both acute and delayed

SECTION 2: Hazards identification & SECTION 11: Toxicological information

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

There are no data available on the mixture itself.

5. FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

In case of fire, use sand, extinguishing powder or alcohol resistant foam. Water fog. Atomized water.

Unsuitable extinguishing media:

High power water jet.

5.2. Special hazards arising from the substance or mixture

Carbon monoxide. CO Carbon dioxide (CO₂). Vapours may form explosive mixtures with air. Reignition possible over considerable distance.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical resistant suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Provide fresh air. Avoid contact with skin and eyes. Wear suitable protective clothing and eye/face protection. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, closed-circuit breathing apparatus must be used!

6.2 Environmental precautions

Do not allow to enter into surface water or drains. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

6.3 Methods and material for containment and cleaning up

Provide adequate ventilation. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Clean contaminated objects and areas thoroughly observing environmental regulations. Collect in closed and suitable containers for disposal. Treat the recovered material as prescribed in the section on waste disposal.

6.4 Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling

Provide adequate ventilation as well as local exhaust at critical locations. Vapours / aerosols should be extracted by suction directly at point of origin. Effective exhaust ventilation system according to 2001/59/EG (Annex 7A). See information supplied by the manufacturer. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Open and handle container with care. Keep container tightly closed.

Advice on protection against fire and explosion

The vapours are heavier than air and can accumulate in high concentrations on the ground, in cavities, channels and cellars. In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop. Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode. Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharge.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Ensure adequate ventilation of the storage area. Keep only in the original container in a cool, well-ventilated place. Store small packages in a suitable, robust cabinet. Keep container tightly closed. Remove all sources of ignition. Recommended storage temperature: (+15 °C) - (+25 °C)

Advice on storage compatibility

Do not store together with: Oxidising agent. Technical Rule 510 note.

Further information on storage conditions

Protect against direct sunlight. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. The product is chemically stable under recommended conditions of storage, use and temperature. In case of exceeding the storage time: Product/Packaging disposal. Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

7.3. Specific end use(s)

Solvent for industrial InkJet-printers. information available.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Exposure limit values

Exposure limits (EH40)

Chemical name	CAS-No.	ppm	mg/m ³	Category	Origin
Butan-2-one (methyl ethyl ketone)	78-93-3	200	600	TWA (8 h)	WEL
		300	899	STEL (15 min)	WEL
Ethanol	64-17-5	1000	1920	TWA (8 h)	WEL
		-	-	STEL (15 min)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	parameter	Value	Test material	Sampling time
78-93-3	Butan-2-one	Butan-2-one	70µmol/l	urine	Post shift

Additional advice on limit values

Technical measures and the application of suitable work processes have priority over personal protection equipment.

8.2 Exposure controls

Protective and hygiene measures

Keep away from food, drink and animal feedingstuffs. Remove contaminated, saturated clothing immediately. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin and eyes. Protect skin by using skin protective cream. Draw up and observe skin protection programme. Wash hands before breaks and after work. When using do not eat, drink or smoke.

Eye/face protection

Tightly sealed safety glasses. DIN EN 166

Hand protection

Wear protective gloves. Recommended material: Butyl caoutchouc (butyl rubber) Thickness of the glove material \geq 0,5 mm. DIN EN 374. NR (natural rubber, natural latex) limited resistance using a maximum of 10 minutes. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The required protective gloves have to be specified by the glove material and the penetration time of the glove material depending on strength and duration of dermal exposition.

Skin protection

Wear suitable protective clothing

Respiratory protection

Extended inhalation at levels above the workplace limit value can cause irreversible damage to the lungs. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Observe the wear time limits according to GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 General information

Physical state:	liquid
Colour:	clear, colorless
Odour:	like keton

9.2 Important health, safety and environmental information

pH-Value (at 20 °C):	not determined	DIN 19268
Melting point:	not determined	DIN 53181
Boiling point:	79 - 110°C	DIN 51751
Flash point:	-5°C	DIN 51755
Explosive properties	not explosive. Vapours may form explosive mixtures with air.	
Lower explosion limits:	1,8 vol. %	DIN 51649
Upper explosion limits:	11,5 vol. %	DIN 51649
Ignition temperature:	514°C	ISO 2811
Vapour pressure (at 20°C):	105 hPa	DIN 51754
Density (at 20°C):	~ 0,8 g/cm ³	DIN 53217
Viscosity / dynamic: (at 20°C)	~ 0,7 mPas	DIN 53018

10. STABILITY AND REACTIVITY

10.2. Chemical stability

The mixture is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

May form explosive peroxides. In use may form flammable/explosive vapour-air mixture. Vapours of flammable solvents can accumulate in the gas phase of closed container, especially during heat treatment. Therefore keep away from fire and sources of ignition.

10.4. Conditions to avoid

Protect from sunlight. Store at temperatures not exceeding 35°C/95°F.

10.5. Incompatible materials

Keep away from strong acids, leachates, heavy metal salts and reducing materials.

10.6. Hazardous decomposition products

Carbon monoxide.(CO), Carbon dioxide (CO₂). Peroxide

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

CAS No.	Chemical name				
	Exposure routes	Method	Dose	Species	Source

78-93-3	Butanone				
	oral	LD50	3300 mg/kg	rat	
	dermal	LD50	5000 mg/kg	rabbit	
	inhalative (4 h) vapour	LC50	10000 mg/l	rat	

64-17-5	Ethanol				
	oral	LD50	6200 mg/kg	rat	IUCLID
	inhalative (4 h) vapour	LC50	95,6 mg/l	rat	RTECS

Further information

Prolonged/repetitive skin contact may cause skin defatting or dermatitis. Inhalation causes narcotic effects/intoxication. Causes eye irritation. In case of eye contact. May cause damage to liver through prolonged or repeated exposure if inhaled. Ingestion causes nausea, weakness and central nervous system effects. Observe risk of aspiration if vomiting occurs.

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

CAS No.	Chemical name					
	Aquatic toxicity	Method	Dose	[h] [d]	Species	Source
64-17-5	Ethanol					
	Acute crustacean toxicity	EC50 Mg/l	9268-14221	48h	Daphnia magna	IUCLID

12.2. Persistence and degradability

Product is partially biodegradable. Significant residues remain.

12.3. Bioaccumulative potential

No data available

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
78-93-3	butanone	0,29
64-17-5	ethanol, ethyl alcohol	-0,31

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

No data available

Further information

The ecotoxicological properties of this mixture are determined by the ecotoxicological properties of the single components (see chapter 3).

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Advice on disposal

Dispose of waste according to applicable legislation. Do not empty into drains; dispose of this material and its container in a safe way. Consult the appropriate local waste disposal expert about waste disposal. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

14. TRANSPORT INFORMATION

Land transport (ADR / RID):

14.1. UN number	1210
14.2. UN proper shipping name	PRINTING INK RELATED MATERIAL (Butanone)
14.3. Transport hazard class(es)	3
14.4. Packing group	II
Hazard Label:	3
Classification code:	F1
Special Provisions:	163 640D 650
Limited Quantity :	5L
Transport category :	2
Hazard No.:	33
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number	1210
14.2. UN proper shipping name	PRINTING INK RELATED MATERIAL (Butanone)
14.3. Transport hazard class(es)	3
14.4. Packing group	II
Hazard Label:	3
Classification code:	F1
Special Provisions:	163 640D 650
Limited Quantity:	5L
Transport category:	2

Marine transport (IMDG)

14.1. UN number	1210
14.2. UN proper shipping name	PRINTING INK RELATED MATERIAL (Butanone)
14.3. Transport hazard class(es)	3
14.4. Packing group	II
Hazard Label:	3
Special Provisions:	163 640D 650
Limited Quantity:	5L
EmS:	F-E, S-E

Air transport (ICAO)

14.1. UN number	1210
14.2. UN proper shipping name	PRINTING INK RELATED MATERIAL (Butanone)
14.3. Transport hazard class(es)	3
14.4. Packing group	II
Hazard Label:	3

Special Provisions:	A72
Limited Quantity Passenger:	1L
IATA-packing instructions – Passenger:	353
IATA-max. quantity - Passenger:	5L
IATA-packing instructions – Cargo	364
IATA-max. quantity – Cargo	60L

Other applicable information (air transport)

E2

Passenger-LQ: Y341

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU regulatory information

2010/75/EU (VOC): 100 % (803 g/l)

2004/42/EC (VOC): 100 % (803 g/l)

National regulatory information

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing. Observe employment restrictions for women of child-bearing age.

Water contaminating class (D): 1 – slightly water contaminating

Additional information: For use in industrial installations or professional treatment only.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

16. OTHER INFORMATION

Abbreviations and acronyms

CIJ: Continuous Inkjet Printer

Relevant R-phrases (Number and full text)

11 Highly flammable.

36 Irritating to eyes.

66 Repeated exposure may cause skin dryness or cracking.

67 Vapours may cause drowsiness and dizziness.

Relevant H- and EUH-phrases (Number and full text)

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. The product should only be handled by persons over the age of 18, who were informed sufficiently about the dangerous nature of the product and about the necessary safety precautions.