



TS4A047
Yellow ink

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier:** TS4A047 Yellow ink
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant uses: Printing-ink. For professional use only.
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:** EBS Ink-Jet Systeme GmbH
Alte Ziegelei 19-25
D-51588 Nümbrecht Elsenroth - Germany
Phone.: +49 2293 939 0 -
Fax: +49 2293 939 3
mail@ebs-inkjet.de
www.ebs-inkjet.de
- 1.4 Emergency telephone number:** For medical emergency call Resuscitation Centre of the Free University of Berlin – telephone: +49 (0) 30 3035-3466.
For chemical emergency, spill, leak, fire, exposure or accident call CHEMTREC - day or night within USA and Canada: 1-800-424-9300.
Outside USA and Canada: +1 703-527-3887 (collect calls accepted).

SECTION 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
Directive 67/548/EC and Directive 1999/45/EC:
This product was classified in accordance with Directive 67/548/EC and Directive 1999/45/EC, adapting the requirements to Regulation (EC) n°1907/2006 (REACH regulation).
F: R11 - Highly flammable
Xi: R36 - Irritating to eyes
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R66 - Repeated exposure may cause skin dryness or cracking
R67 - Vapours may cause drowsiness and dizziness
- CLP Regulation (EC) n° 1272/2008:**
Classification of this product has been carried out in accordance with CLP Regulation (EC) n° 1272/2008.
Eye Dam. 1: Serious eye damage, Category 1
Flam. Liq. 2: Flammable liquids, Category 2
STOT SE 3: Specific toxicity causing drowsiness and dizziness, single exposure, Category 3
- 2.2 Label elements:**
Directive 67/548/EC and Directive 1999/45/EC:
In accordance with the legislation, the elements on the label are as follows:
- | | |
|---|--|
| F

Highly flammable | Xi

Irritant |
|---|--|
- R Phrases:**
R11: Highly flammable
R36: Irritating to eyes
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapours may cause drowsiness and dizziness
- S Phrases:**

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SECTION 2: HAZARDS IDENTIFICATION (continue)

S16: Keep away from sources of ignition - No smoking
S2: Keep out of the reach of children
S25: Avoid contact with eyes
S36: Wear suitable protective clothing
S43: In case of fire, use polyvalent powder ABC
S46: If swallowed, seek medical advice immediately and show this container or label
S51: Use only in well-ventilated areas
S61: Avoid release to the environment Refer to special instructions/safety data sheets
S9: Keep container in a well-ventilated place

Supplementary information:

Non-applicable

CLP Regulation (EC) n° 1272/2008:

Danger



Hazard indications:

Eye Dam. 1: H318 - Causes serious eye damage
Flam. Liq. 2: H225 - Highly flammable liquid and vapour
STOT SE 3: H336 - May cause drowsiness or dizziness

Cautionary advice:

P271: Use only outdoors or in a well-ventilated area
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310: Immediately call a POISON CENTER or doctor/physician
P370+P378: In case of fire: Use ABC powder extinguisher to put it out

Supplementary information:

EUH066: Repeated exposure may cause skin dryness or cracking

Substances that contribute to the classification

Ethyl Lactate; 2-butanone; 1-methoxy-2-propanol

2.3 Other hazards:

Non-applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical description: Mixture composed of additives, colourants and resins in solvents

Components:

In accordance with Annex II of Regulation (EC) n°1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 78-93-3 EC: 201-159-0 Index: 606-002-00-3 REACH:01-2119457290-43-XXXX	2-butanone	ATP CLP00
	Directive 67/548/EC F: R11; Xi: R36; R66; R67	60 - <80 %
	Regulation 1272/2008 Eye Irrit. 2: H319; Flam. Liq. 2: H225; STOT SE 3: H336 - Danger	
CAS: 107-98-2 EC: 203-539-1 Index: 603-064-00-3 REACH:01-2119457435-35-XXXX	1-methoxy-2-propanol	ATP ATP01
	Directive 67/548/EC R10; R67	5 - <10 %
	Regulation 1272/2008 Flam. Liq. 3: H226; STOT SE 3: H336 - Warning	
CAS: 687-47-8 EC: 211-694-1 Index: 607-129-00-7 REACH:Non-applicable	Ethyl Lactate	
	Directive 67/548/EC N: R51/53; Xi: R37, R41; R10	1 - <5 %
	Regulation 1272/2008 Eye Dam. 1: H318; Flam. Aerosol 3: H229; Flam. Liq. 3: H226; STOT SE 3: H335 - Danger	

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continue)

Identification	Chemical name/Classification	Concentration
CAS: 872-50-4 EC: 212-828-1 Index: 606-021-00-7 REACH:01-2119472430-46-XXXX	N-methyl-2-pyrrolidone Directive 67/548/EC Repr. Cat 2: R61; Xi: R36/37/38 Regulation 1272/2008 Eye Irrit. 2: H319; Repr. 1B: H360D; Skin Irrit. 2: H315; STOT SE 3: H335 - Danger	ATP ATP01 1 - <5 %

To obtain more information on the risk of the substances consult sections 8, 11, 12 and 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the MSDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with luke warm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the MSDS of the product.

By consumption:

Do not induce vomiting, but if it does happen keep the head up to avoid inhalation. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

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

Acute and delayed effects are indicated in sections 2 and 11.

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

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

If possible use polyvalent powder fire extinguishers (ABC powder), alternatively use foam or carbon dioxide extinguishers (CO₂). IT IS RECOMMENDED NOT to use tap water as an extinguishing agent.

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive subproducts are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit, ...) in accordance with Directive 89/654/EC.

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

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SECTION 6: ACCIDENTAL RELEASE MEASURES (continue)

6.1 Personal precautions, protective equipment and emergency procedures:

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilled product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inertizing agent. Destroy any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

6.2 Environmental precautions:

This product is not classified as dangerous to the environment. Keep product away from drains, surface and underground water.

6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- Precautions for safe manipulation

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks,...) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems defined in Directive 94/9/EC (ATEX 100) and with the minimum requirements for protecting the security and health of workers under the selection criteria of Directive 1999/92/EC (ATEX 137). Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Minimum Temp.: 5 °C

Maximum Temp.: 25 °C

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food

7.3 Specific end use(s):

Inkjet printing ink.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the work environment

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continue)

Identification		Environmental limits	
2-butanone CAS: 78-93-3 EC: 201-159-0	IOELV (8h)	200 ppm	600 mg/m ³
	IOELV (STEL)	300 ppm	900 mg/m ³
	Year	2012	
1-methoxy-2-propanol CAS: 107-98-2 EC: 203-539-1	IOELV (8h)	100 ppm	375 mg/m ³
	IOELV (STEL)	150 ppm	563 mg/m ³
	Year	2012	
N-methyl-2-pyrrolidone CAS: 872-50-4 EC: 212-828-1	IOELV (8h)	10 ppm	40 mg/m ³
	IOELV (STEL)	20 ppm	80 mg/m ³
	Year	2012	

DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
2-butanone CAS: 78-93-3 EC: 201-159-0	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	1161 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	600 mg/m ³	Non-applicable
1-methoxy-2-propanol CAS: 107-98-2 EC: 203-539-1	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	50,6 mg/kg	Non-applicable
	Inhalation	Non-applicable	553,5 mg/m ³	369 mg/m ³	Non-applicable
N-methyl-2-pyrrolidone CAS: 872-50-4 EC: 212-828-1	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	208 mg/kg	Non-applicable	19,8 mg/kg	Non-applicable
	Inhalation	80 mg/m ³	Non-applicable	40 mg/m ³	Non-applicable

DNEL (Population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
2-butanone CAS: 78-93-3 EC: 201-159-0	Oral	Non-applicable	Non-applicable	31 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	412 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	106 mg/m ³	Non-applicable
1-methoxy-2-propanol CAS: 107-98-2 EC: 203-539-1	Oral	Non-applicable	Non-applicable	3,3 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	18,1 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	43,9 mg/m ³	Non-applicable
N-methyl-2-pyrrolidone CAS: 872-50-4 EC: 212-828-1	Oral	26 mg/kg	Non-applicable	6,3 mg/kg	Non-applicable
	Dermal	125 mg/kg	Non-applicable	11,9 mg/kg	Non-applicable
	Inhalation	80 mg/m ³	Non-applicable	12,5 mg/m ³	Non-applicable

PNEC:

Identification				
2-butanone CAS: 78-93-3 EC: 201-159-0	STP	709 mg/L	Fresh water	55,8 mg/L
	Soil	22,5 mg/kg	Marine water	55,8 mg/L
	Intermittent	55,8 mg/L	Sediment (Fresh water)	284,74 mg/kg
		1000 g/kg	Sediment (Marine water)	284,7 mg/kg
1-methoxy-2-propanol CAS: 107-98-2 EC: 203-539-1	STP	100 mg/L	Fresh water	10 mg/L
	Soil	5,49 mg/kg	Marine water	1 mg/L
	Intermittent	100 mg/L	Sediment (Fresh water)	52,3 mg/kg
		Non-applicable	Sediment (Marine water)	5,2 mg/kg
N-methyl-2-pyrrolidone CAS: 872-50-4 EC: 212-828-1	STP	10 mg/L	Fresh water	0,25 mg/L
	Soil	0,138 mg/kg	Marine water	0,025 mg/L
	Intermittent	5 mg/L	Sediment (Fresh water)	1,42 mg/kg
		1,67 g/kg	Sediment (Marine water)	0,142 mg/kg

8.2 Exposure controls:

A.- General security and hygiene measures in the work place



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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continue)

In accordance with the order of importance to control professional exposure (Directive 98/24/EC) it is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding the professional exposure limits. In case of using individual protection equipment they should have the "CE marking" in accordance with Directive 89/686/EC. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For additional information see subsection 7.1.
All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.



B.- Respiratory protection

LRP Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours		EN 405:2001+A1:2009	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.





C.- Specific protection for the hands

LRP Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	NON-disposable chemical protective gloves		EN 374-1:2003 EN 374-3:2003/AC:2006 EN 420:2003+A1:2009	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin.



D.- Ocular and facial protection

LRP Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Face mask		EN 166:2001 EN 167:2001 EN 168:2001 EN 172:1994/A1:2000 EN 172:1994/A2:2001 EN 165:2005	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Bodily protection

LRP Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks, with antistatic and fireproof properties		EN 1149-1,2,3 EN 13034:2005+A1:2009 EN ISO 13982-1:2004/A1:2010 EN ISO 6529:2001 EN ISO 6530:2005 EN 340:2003 EN 464:1994	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk, with antistatic and heat resistant properties		EN 13287:2007 EN ISO 20345:2011 EN 13832-1:2006 EN ISO 20344:2011	Replace boots at any sign of deterioration.

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2002	 Eyewash stations	DIN 12 899 ISO 3864-1:2002

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

Volatil organic compounds:

With regard to Directive 1999/13/EC, this product has the following characteristics:

V.O.C. (Supply): 93,8 % weight

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V.O.C. density at 20 °C:	774,08 kg/m ³ (774,08 g/L)
Average carbon number:	4,05
Average molecular weight:	75,41 g/mol

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties:**

For complete information see the product datasheet.

Appearance:

Physical state at 20 °C:	Liquid
Appearance:	Characteristic
Color:	 Yellow
Odor:	Characteristic

Volatility:

Boiling point at atmospheric pressure:	86 °C
Vapour pressure at 20 °C:	8511 Pa
Vapour pressure at 50 °C:	31537 Pa (32 kPa)
Evaporation rate at 20 °C:	Non-applicable *

Product description:

Density at 20 °C:	825 kg/m ³
Relative density at 20 °C:	0,825
Dynamic viscosity at 20 °C:	0,5 cP
Kinematic viscosity at 20 °C:	0,61 cSt
Kinematic viscosity at 40 °C:	Non-applicable *
Concentration:	Non-applicable *
pH:	Non-applicable *
Vapour density at 20 °C:	Non-applicable *
Partition coefficient n-octanol/water 20 °C:	Non-applicable *
Solubility in water at 20 °C:	Non-applicable *
Solubility property:	Non-applicable *
Decomposition temperature:	Non-applicable *

Flammability:

Flash Point:	-3 °C
Autoignition temperature:	287 °C
Lower flammability limit:	Not available
Upper flammability limit:	Not available

9.2 Other information:

Surface tension at 20 °C:	Non-applicable *
Refraction index:	Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY**10.1 Reactivity:**

No hazardous reactions are expected if the following technical instructions storage of chemicals. See section 7.

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SECTION 10: STABILITY AND REACTIVITY (continue)

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under normal conditions no hazardous reactions are expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Risk of combustion	Avoid direct impact	Not applicable

10.5 Incompatible materials:

Acids	Water	Combustive materials	Combustible materials	Others
Not applicable	Not applicable	Avoid direct impact	Avoid direct impact	Not applicable

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

No experimental information is available on the product itself in relation to the toxicological properties. When performing the danger classification on corrosive or irritant effects the recommendations included in section 3.2.5 of Annex VI of Directive 67/548/EC, in paragraphs b) and c) of section 3 of article 6 of Directive 1999/45/EC and in section 3.2.3.3.5. of Annex I of CLP Regulation were taken into account.

Contains glycols. With possibility of effects that are hazardous to the health, it is recommended not to breathe the vapours for long periods of time.

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A.- Ingestion:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for consumption. For more information see section 3.

B- Inhalation:

Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for inhalation. For more information see section 3.

C- Contact with the skin and the eyes:

Produces serious eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

Based on available data, the classification criteria are not met, however it does contain substances classified as dangerous for this effect. For more information see section 3.

E- Sensitizing effects:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensiblizing effects. For more information see section 3.

F- Specific target organ toxicity (STOT)-time exposure:

Exposure in high concentrations can cause a breakdown in the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion and in serious cases, loss of concentration.

G- Specific target organ toxicity (STOT)-repeated exposure:

Repeated exposure may cause skin dryness or cracking

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

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SECTION 11: TOXICOLOGICAL INFORMATION (continue)

Other information:

Non-applicable

Specific toxicology information on the substances:

Identification		Acute toxicity		Genus
2-butanone	LD50 oral	4000 mg/kg		Rat
CAS: 78-93-3	LD50 dermal	6400 mg/kg		Rabbit
EC: 201-159-0	LC50 inhalation	23,5 mg/L (4 h)		Rat
N-methyl-2-pyrrolidone	LD50 oral	3598 mg/kg		Rat
CAS: 872-50-4	LD50 dermal	7000 mg/kg		Rat
EC: 212-828-1	LC50 inhalation	Non-applicable		

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the ecotoxicological properties of the mixture itself is not available

12.1 Toxicity:

Identification		Acute toxicity		Specie	Genus
2-butanone	LC50	3220 mg/L (96 h)		Pimephales promelas	Fish
CAS: 78-93-3	EC50	5091 mg/L (48 h)		Daphnia magna	Crustacean
EC: 201-159-0	EC50	4300 mg/L (168 h)		Scenedesmus quadricauda	Alga
1-methoxy-2-propanol	LC50	20800 mg/L (96 h)		Pimephales promelas	Fish
CAS: 107-98-2	EC50	23300 mg/L (48 h)		Daphnia magna	Crustacean
EC: 203-539-1	EC50	1000 mg/L (168 h)		Selenastrum capricornutum	Alga
N-methyl-2-pyrrolidone	LC50	832 mg/L (96 h)		Lepomis macrochirus	Fish
CAS: 872-50-4	EC50	4897 mg/L (48 h)		Daphnia magna	Crustacean
EC: 212-828-1	EC50	500 mg/L (72 h)		Scenedesmus subspicatus	Alga

12.2 Persistence and degradability:

Identification		Degradability		Biodegradability	
2-butanone	BOD5	2.03 g O2/g	Concentration	Non-applicable	
CAS: 78-93-3	Code	2.31 g O2/g	Period	20 days	
EC: 201-159-0	BOD5/COD	0.88	% Biodegradable	89 %	
1-methoxy-2-propanol	BOD5	Non-applicable	Concentration	100 mg/L	
CAS: 107-98-2	Code	Non-applicable	Period	28 days	
EC: 203-539-1	BOD5/COD	Non-applicable	% Biodegradable	90 %	
N-methyl-2-pyrrolidone	BOD5	1.09 g O2/g	Concentration	100 mg/L	
CAS: 872-50-4	Code	1.6 g O2/g	Period	28 days	
EC: 212-828-1	BOD5/COD	0.68	% Biodegradable	73 %	

12.3 Bioaccumulative potential:

Identification		Bioaccumulation potential	
2-butanone	BCF		3
CAS: 78-93-3	Pow Log		0,29
EC: 201-159-0	Potential		Low
1-methoxy-2-propanol	BCF		3
CAS: 107-98-2	Pow Log		-0,44
EC: 203-539-1	Potential		Low
N-methyl-2-pyrrolidone	BCF		0,23
CAS: 872-50-4	Pow Log		-0,46
EC: 212-828-1	Potential		Low

12.4 Mobility in soil:

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SECTION 12: ECOLOGICAL INFORMATION (continue)

Identification	Absorption/desorption		Volatility	
2-butanone	Koc	30	Henry	5,765E+0 Pa·m ³ /mol
CAS: 78-93-3	Conclusion	Very High	Dry soil	Yes
EC: 201-159-0	Surface tension	23960 N/m (25 °C)	Moist soil	Yes
N-methyl-2-pyrrolidone	Koc	Non-applicable	Henry	Non-applicable
CAS: 872-50-4	Conclusion	Non-applicable	Dry soil	Non-applicable
EC: 212-828-1	Surface tension	40070 N/m (25 °C)	Moist soil	Non-applicable

12.5 Results of PBT and vPvB assessment:

Non-applicable

12.6 Other adverse effects:

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Code	Description	Waste class (Directive 2008/98/EC)
08 03 12*	Waste ink containing dangerous substances	Dangerous

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2000/532/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommend disposal down the drain. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of Regulation (EC) n°1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2000/532/EC: Commission Decision of 3 May 2000

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land:

With regard to ADR 2013 and RID 2013:



- 14.1 UN number:** UN1210
14.2 UN proper shipping name: PRINTING INK, flammable
14.3 Transport hazard class(es): 3
Labels: 3
14.4 Packing group: II
14.5 Dangerous for the environment: No
14.6 Special precautions for user
Special regulations: 163, 640D
Tunnel restriction code: D/E
Physico-Chemical properties: see section 9
Limited quantities: 5 L
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Non-applicable

Transport of dangerous goods by sea:

With regard to IMDG 36-12:

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SECTION 14: TRANSPORT INFORMATION (continue)



14.1 UN number:	UN1210
14.2 UN proper shipping name:	PRINTING INK, flammable
14.3 Transport hazard class(es):	3
Labels:	3
14.4 Packing group:	II
14.5 Dangerous for the environment:	No
14.6 Special precautions for user	
Special regulations:	163
EmS Codes:	F-E, S-D
Physico-Chemical properties:	see section 9
Limited quantities:	5 L
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Non-applicable

Transport of dangerous goods by air:

With regard to IATA/ICAO 2014:



14.1 UN number:	UN1210
14.2 UN proper shipping name:	PRINTING INK, flammable
14.3 Transport hazard class(es):	3
Labels:	3
14.4 Packing group:	II
14.5 Dangerous for the environment:	No
14.6 Special precautions for user	
Physico-Chemical properties:	see section 9
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Non-applicable

SECTION 15: REGULATORY INFORMATION

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

Candidate substances for authorisation under the Regulation (EC) 1907/2006 (REACH): N-methyl-2-pyrrolidone

Regulation (EC) 1005/2009, about substances that deplete the ozone layer: Non-applicable

Active substances for which a decision of non-inclusion onto Annex I (Regulation (EU) No 528/2012): Non-applicable

Regulation (EC) 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII, REACH):

Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:

- metallic glitter intended mainly for decoration,
- artificial snow and frost,
- "whoopee" cushions,
- silly string aerosols,
- imitation excrement,
- horns for parties,
- decorative flakes and foams,
- artificial cobwebs,
- stink bombs.

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

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SECTION 15: REGULATORY INFORMATION (continue)

Other legislation:

Non-applicable

15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) N° 1907/2006 (Regulation (EC) N° 453/2010)

Modifications related to the previous security card which concerns the ways of managing risks. :

Non-applicable

Text of R-phrases considered in section 3:

Directive 67/548/EC and Directive 1999/45/EC:

R10: Flammable
R11: Highly flammable
R36: Irritating to eyes
R36/37/38: Irritating to eyes, respiratory system and skin
R37: Irritating to respiratory system
R41: Risk of serious damage to eyes
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R61: May cause harm to the unborn child (Category 2)
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapours may cause drowsiness and dizziness

CLP Regulation (EC) n° 1272/2008:

Eye Dam. 1: H318 - Causes serious eye damage
Eye Irrit. 2: H319 - Causes serious eye irritation
Flam. Aerosol 3: H229 - Pressurised container: May burst if heated
Flam. Liq. 2: H225 - Highly flammable liquid and vapour
Flam. Liq. 3: H226 - Flammable liquid and vapour
Repr. 1B: H360D - May damage the foetus
Skin Irrit. 2: H315 - Causes skin irritation
STOT SE 3: H335 - May cause respiratory irritation
STOT SE 3: H336 - May cause drowsiness or dizziness

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

<http://esis.jrc.ec.europa.eu>
<http://echa.europa.eu>
<http://eur-lex.europa.eu>

Abbreviations and acronyms:

- ADR: European agreement concerning the international carriage of dangerous goods by road
- IMDG: International maritime dangerous goods code
- IATA: International Air Transport Association
- ICAO: International Civil Aviation Organisation
- COD: Chemical Oxygen Demand
- BOD5: 5-day biochemical oxygen demand
- BCF: Bioconcentration factor
- LD50: Lethal Dose 50
- CL50: Lethal Concentration 50
- EC50: Effective concentration 50
- Log-POW: Octanol-water partition coefficient
- Koc: Partition coefficient of organic carbon

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Safety data sheet
According to 1907/2006/EC (REACH), 453/2010/EC

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The information contained in this security data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this security data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -