

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: Smart Flexo
Product number: S-CS31506

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

Identified uses: Ink

1.3 Details of the supplier of the Safety Data Sheet

Manufacturer/Supplier: Genes'Ink
Zone Industrielle
39 Avenue Gaston Imbert - 13790 Rousset (France)
Telephone: +33 (0) 442 370 580
Fax: +33 (0) 442 200 703
E-mail address: hse@genesink.com

1.4 Emergency telephone number

Emergency Phone: I.N.R.S.: +33 (0)1 45 42 59 59
CARECHEM 24 INTERNATIONAL: +44 12 35239670

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Eye Irrit. 2
Skin Irrit.2
Aquatic Acute 1
Aquatic Chronic 1

2.2 Label elements

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

Hazard pictogram(s)



Signal word

Warning

Hazard statement(s):

- | | |
|------|---|
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

Precautionary statement(s):

- | | |
|----------------|--|
| P261 | Avoid breathing vapours. |
| P264 | Wash hands thoroughly after handling. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P312 | Call a POISON CENTER or doctor/physician if you feel unwell. |
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P332+P313 | If skin irritation occurs: Get medical advice/attention. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P501 | Dispose of contents/container to local regulations. |

2.3 Other hazards

none

3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS No.	EC No.	Index No.	Classification	Weight % content (or range)
Silver	7440-22-4	231-131-3	-	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	50 – 60 %
2-(2-butoxyethoxy)ethanol	112-34-5	203-961-6	603-096-00-8	Eye Irrit. 2, H319	5 – 10 %
Terpineol	8000-41-7	232-268-1	-	Skin Irrit. 2, H315 Eye Irrit. 2, H319	30 – 40 %

4. FIRST AID MEASURES

4.1 Description of first aid measures

General notes

Consult a physician. Show this safety data sheet to the doctor in attendance.

Following inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Following skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

Following eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Following ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media**Suitable extinguishing media**

Use water spray, carbon dioxide (CO₂), alcohol-resistant foam.

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NO_x)

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Keep receptacles cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

Avoid breathing vapours, mist or gas.

Ensure adequate ventilation.

Remove all sources of ignition.

Evacuate personnel to safe areas.

Beware of vapours accumulating to form explosive concentrations.

Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.
Do not let product enter drains.
Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes.
Avoid inhalation of vapor or mist.
Provide local ventilation at the workplace.
Staff should wear appropriate protective clothing, gloves and goggles, so avoid contact with skin and eyes.
It is forbidden to eat and drink in areas where the preparation is used. Never open the packages under pressure.
Never open the packages under pressure.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place: 3 - 5°C.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limit values

Substance	CAS-No	TWA		TLV		Remarks
		ppm	mg/m ³	ppm	mg/m ³	
Silver	7440-22-4	-	0.1	-	-	-
2-(2-butoxyethoxy)ethanol	112-34-5	10	67.5	-	101.2	-
Terpineol	8000-41-7	-	-	-	-	-

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.
Wash hands before breaks and at the end of workday.

Personal protection**Eye/face protection**

Safety glasses with side-shields conforming to EN166.
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves.
Gloves must be inspected prior to use.
Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.
Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.
Wash and dry hands.
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.
The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environmental exposure controls

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance	Liquid, Paste
b) Odour	Characteristic
a) Odour threshold	No data available
b) pH	No data available
a) Melting/freezing point	No data available
a) Initial boiling point and boiling range	No data available
a) Flash point	No data available
b) Evaporation rate	No data available
c) Flammability (solid, gas)	No data available

d) Upper/lower flammability or explosive limits	No data available
e) Vapour pressure	No data available
f) Vapour density	No data available
g) Relative density	1.862 @ 20°C
h) Solubility(ies)	No data available
i) Partition coefficient: n-octanol/water	No data available
j) Auto-ignition temperature	No data available
k) Decomposition temperature	No data available
l) Viscosity	100 – 600 mPa.s @ 20°C
m) Explosive properties	No data available
n) Oxidising properties	No data available

9.2 Other information

No more relevant data available.

10. STABILITY AND REACTIVITY**10.1 Reactivity**

Strong oxidant
Peroxides

10.2 Chemical stability

Stable in normal conditions of use.

10.3 Possibility of hazardous reactions

see Reactivity

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

Carbon oxides, Nitrogen oxides

11. TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects****Acute toxicity**

Silver

Oral, rats

LD₅₀ > 5000 mg/kg

	Percutaneous, rats	LD ₅₀ > 2000 mg/kg	HSBD (2003)
2-(2-butoxyethoxy)ethanol	Oral, rats	LD ₅₀ = 45000 mg/kg	
	Oral, mouse	LD ₅₀ = 2400 mg/kg	
	Oral, human	LD _{Lo} = 0.5 mL/kg	
Terpineol	Oral, rats	LD ₅₀ > 2000 mg/kg	OCDE guideline 401
	Inhalation, rats	Symptoms : Possible consequences : mucosal irritations CL ₅₀ > 4.76 mg/L; 4 h; aerosol	OCDE guideline 403
	Dermal, rats	LD ₅₀ > 2000 mg/kg	OCDE guideline 402
Skin corrosion/irritation			
Silver	Slightly irritating (rabbits) Irritates respiratory membranes. Cause argyria (acute bronchitis, pulmonary emphysema, etc.)		IUCLID [2000]
2-(2-butoxyethoxy)ethanol	No data available		
Terpineol	Causes skin irritation. Rabbit, Result: irritating		OCDE guideline 404
Serious eye damage/irritation			
Silver	Eye irritation (Category 2B), mild irritant (rabbits) Irritation persists up to 48 hours.		IUCLID [2000]
2-(2-butoxyethoxy)ethanol	Eye; rabbits; 20 mg; Severe		
Terpineol	Causes serious eye irritation. Rabbit, Result: Irritation of the eyes		OCDE guideline 405
Respiratory or skin sensitisation			
Silver	Exposure to powder causes allergic contact dermatitis (Category 1)		(ACGIH [2001])
2-(2-butoxyethoxy)ethanol	No data available		
Terpineol	Guinea pig, Result: negative		OCDE guideline 406
Germ cell mutagenicity			
Silver	No data available		
2-(2-butoxyethoxy)ethanol	No data available		

Terpineol	Genotoxicity in vitro Bacterial mutagenic action (mammalian cell test): Chromosome aberration test. Human lymphocytes, Result: negative In vitro gene mutation test in mammalian cells : Mouse lymphoma test, Result: negative Ames test Salmonella typhimurium, Result: negative	OCDE guideline 473 OCDE guideline 476 OCDE guideline 471
Carcinogenicity		
Silver	No data available from organization that evaluate carcinogenicity, such as IARC. No carcinogenicity is observed in rats following intramuscular administration of silver powder. There is no evidence of carcinogenicity in humans.	PATTY (5 th ,2001)
2-(2-butoxyethoxy)ethanol	No data available	
Terpineol	No data available	
Reproductive toxicity		
Summary of evaluation of the CMR properties		
Silver	No data available	
2-(2-butoxyethoxy)ethanol	No data available	
Terpineol	Oral, rat	Number of exhibitions: daily OCDE guideline 422
STOT - single exposure		
Silver	Exposure to silver fumes for 4 hours causes lung damage including pulmonary edema. Respiratory tract irritation occurs following occupational exposure to silver dust. Respiratory damage (Category 1)	ACGIH (7 th , 2001) ATSDR ToxFAQs (1997)
2-(2-butoxyethoxy)ethanol	No data available	
Terpineol	No data available	
STOT - repeated exposure		
Silver	Argyria (discoloration of the skin and mucosa) occurs following occupational exposure to silver powder. Night vision impairment occurs. Silver deposition in the lungs due to prolonged inhalation of silver dust causes bronchitis.	ACGIH (7 th , 2001) ATSDR ToxFAQs (1997) HSBD (2003)

2-(2-butoxyethoxy)ethanol No data available

Terpineol Oral, rats NOAEL: 250 mg/kg OCDE guideline 422

Aspiration hazard
no data available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Silver	Dissolved silver is toxic to aquatic life (24h LC ₅₀ [fish] = 0.1 mg/L). LC ₅₀ [bluegrill] = 1300 mg/L/96hr LC ₅₀ [goldfish] = 2700 mg/L/24hr LC ₅₀ [daphnid] = 2850 mg/L	BASF AG LUDWIGSHAFEN BASF AG LUDWIGSHAFEN BASF AG LUDWIGSHAFEN
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2-(2-butoxyethoxy)ethanol No data available

Terpineol No data available

12.2 Persistence and degradability

Silver No data available

2-(2-butoxyethoxy)ethanol No data available

Terpineol No data available

12.3 Bioaccumulative potential

Silver No data available

2-(2-butoxyethoxy)ethanol No data available

Terpineol coefficient: n-octanol / water: log Pow: 2.6 (30 ° C) OCDE guideline 117

12.4 Mobility in soil

Silver No data available

2-(2-butoxyethoxy)ethanol No data available

Terpineol No data available

12.5 Results of PBT and vPvB assessment

Silver No data available

2-(2-butoxyethoxy)ethanol No data available

Terpineol No data available

12.6 Other adverse effects

no data available

12.7 Additional information

no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product/Packaging disposal

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

Empty containers should be made available to local factories for recycling or disposal.

Other disposal recommendations

Disposal must be made according to official regulations.

Packaging that cannot be cleaned should be disposed of in the same manner as the product. Wash with solvents before being sent for incineration.

14. TRANSPORT INFORMATION

Transport	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards	Special precautions for users
RID/ADR	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.	9	III	-	-



SAFETY DATA SHEET
According to Regulation (EC) No. 1907/2006

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IMDG	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.	9	III	-	-
IATA	3082	Environmentally hazardous substances, liquid, n.o.s.	9	III	-	-

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
No data available

15.2 Chemical Safety Assessment
No data available

16. OTHER INFORMATION

16.1 Text of H-code(s) and R-phrase(s) mentioned in section 2 and section 3

- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

16.2 Further information

License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Genes'Ink shall not be held liable for any damage resulting from handling or from contact with the above product. See an invoice or packing slip for additional terms and conditions of sale.