

SAFETY DATA SHEETS

According to Regulation (EU) No.1907/2006, Regulation (EU) No. 1272/2008 and their subsequent amendments and corrigenda

Version: 1.0
Creation Date: Aug. 26, 2019
Revision Date: Aug. 26, 2019

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	mark ink(red)
Other means of identification	-
Other names	Ethanol; Ethyl alcohol
Product number	-

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

Identified uses	for writing
Uses advised against	no data available
Reason why uses advised against	no data available

1.3. Details of the supplier of the safety data sheet

Details of the supplier	-
Company	suzhou xiongying ink
Address	suhzou city
Telephone	+86-512-63331385
Details of the non-Community manufacturer or formulator	
Company	Suzhou xiongying Ink New Materials Co.,Ltd
Address	NO.539 , Yunli Road , Economic and Technological development Zone
Telephone	+86-512-63331385
E-mail address of competent person responsible for the SDS	zhangshenghong001@126.com

1.4. Emergency telephone number

Emergency telephone number	+86-512-63331385
Opening hours	Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT+8 hours).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flam. Liq. 2,H225

2.1.2. Additional information

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2. Label elements

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

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour.

Precautionary statement(s)

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

P233 Keep container tightly closed.

P235 Keep cool.

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

P403+P235 Store in a well-ventilated place. Keep cool.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Supplemental Hazard information (EU)

no data available

2.3. Other hazards

no data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical name	Common names and synonyms	CAS number	EC number	Registration number	Classification according to Regulation (EC)No 1278/2008(CLP)	Concentration
Ethanol	Ethyl Alcohol	64-17-5	200-578-6	-	Flam. Liq. 2,H225	74.70%
1-methoxypropan-2-ol	Propylene Glycol Monomethyl Ether	107-98-2	203-539-1	-	Flam. Liq. 3,H226;STOT SE 3,H335,H336	10%
none	Rosin Modified Maleic Resin	68309-40-0	none	-	no data available	10%
Solvent Red 122	Solvent Red 122	12227-55-3	602-483-9	-	Not classified.	4.60%
[Name confidential or not available]	Solvent Yellow 47	12227-04-2	602-460-3	-	no data available	0.7%

SECTION 4: First aid measures

4.1. Description of first aid measures

General notes

Medical attention is required. Consult a doctor. Show this safety data sheet (SDS) to the doctor in attendance.

Following inhalation

Fresh air, rest.

In case of skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

In case of eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

If swallowed

Rinse mouth. Refer for medical attention .

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

Excerpt from ERG Guide 127 [Flammable Liquids (Water-Miscible)]: Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control may cause pollution. (ERG, 2016) VAPOR: Irritating to eyes, nose and throat. LIQUID: Not harmful. (USCG, 1999) SYMPTOMS: Symptoms of exposure to this compound may include irritation. Ingestion may result in mucous membrane irritation. Eye contact may cause immediate pain and conjunctival hyperemia, but no serious injury. ACUTE/CHRONIC HAZARDS: This compound may cause local irritation. It may also cause mucous membrane irritation. When heated to decomposition it emits acrid smoke and fumes. (NTP, 1992)

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

Emergency and supportive measures: 1. Acute intoxication. Treatment is mainly supportive. a. Protect the airway to prevent aspiration and intubate and assist ventilation if needed. b. Give glucose and thiamine, and treat coma and seizures if they occur. Glucagon is not effective for alcohol-induced hypoglycemia. c. Correct hypothermia with gradual rewarming. d. Most patients will recover within 4-6 hours. Observe children until their blood alcohol level is below 50 mg/dL and there is no evidence of hypoglycemia. 2. Alcoholic ketoacidosis. Treat with volume replacement, thiamine, and supplemental glucose. Most patients recover rapidly. 3. Alcohol withdrawal. Treat with benzodiazepines.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

If material on fire or involved in fire: Do not extinguish fire unless flow can be stopped. Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Excerpt from ERG Guide 127 [Flammable Liquids (Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2016) FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. (USCG, 1999) This chemical is probably combustible. (NTP, 1992)

5.3. Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2. Environmental precautions

Ventilation. Remove all ignition sources. Collect leaking and spilled liquid in sealable containers as far as possible. Wash away remainder with plenty of water.

6.3. Methods and materials for containment and cleaning up

Land spill: Apply appropriate foam to diminish vapor and fire hazard.

6.4. Reference to other sections

For disposal suggestions see section 13. For exposure controls / personal protection suggestions see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2. Conditions for safe storage, including any incompatibilities

Fireproof. Separated from strong oxidants. Keep tightly closed, cool and away from flame.

7.3. Specific end use(s)

Main uses of the chemical are mentioned in section 1.2. No other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure limit values

Component	Ethyl Alcohol			
	CAS No. 64-17-5			
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m ³	ppm	mg/m ³
Australia	1000	1880		
Austria	1000	1900	2000	3800
Belgium	1000	1907		
Canada - Ontario			1000	
Canada - Québec	1000	1880		
Denmark	1000	1900	2000	3800
Finland	1000	1900	1300 (1)	2500 (1)
France	1000	1900	5000	9500
Germany (AGS)	500	960	1000 (1)	1920 (1)
Germany (DFG)	500	960	1000 (1)	1920 (1)
Hungary		1900		7600
Ireland			1000 (1)	
Latvia		1000		
New Zealand	1000	1880		
Poland		1900		
Singapore	1000	1880		
South Korea	1000	1900		

Component	Ethyl Alcohol			
CAS No.	64-17-5			
Spain			1000	1910
Sweden	500	1000	1000 (1)	1900 (1)
Switzerland	500	960	1000	1920
The Netherlands		260		1900
USA - NIOSH	1000	1900		
USA - OSHA	1000	1900		
United Kingdom	1000	1920		
	Remarks			
Finland	(1) 15 minutes average value			
Germany (AGS)	(1) 15 minutes average value			
Germany (DFG)	(1) 15 minutes average value			
Ireland	(1) 15 minutes reference period			
Sweden	(1) 15 minutes average value			

Component	Propylene Glycol Monomethyl Ether			
CAS No.	107-98-2			
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m³	ppm	mg/m³
Australia	100	369	150	553
Austria	50	187	50	187
Belgium	100	375	150	568
Canada - Ontario	100		150	
Canada - Québec	100	369	150	553
Denmark	50	185	100	370
European Union	100	375	150	563
Finland	100	370	150 (1)	560 (1)
France	50	188	100	375
Germany (AGS)	100	370	200 (1)	740 (1)
Germany (DFG)	100	370	200	740
Hungary		375		568
Ireland	100	375	150 (1)	568 (1)
Israel	100	369		
Italy	100	375	150	568
Latvia	100	375	150 (1)	568 (1)
New Zealand	100	369	150	553
South Korea	100	360	150	540
Spain	100	375	150	568
Sweden	50	190	150 (1)	568 (1)
Switzerland	100	360	200	720

Component	Propylene Glycol Monomethyl Ether			
CAS No.	107-98-2			
The Netherlands		375		563
Turkey	100	375	150 (1)	568 (1)
USA - NIOSH	100	360	150 (1)	540 (1)
United Kingdom	100	375	150	560
	Remarks			
European Union	Bold-type: Indicative Occupational Exposure Limit Values [2,3] and Limit Values for Occupational Exposure [4] ~ (for references see bibliography)			
Finland	(1) 15 minutes average value			
France	Bold type: Restrictive statutory limit values			
Germany (AGS)	(1) 15 minutes average value			
Germany (DFG)	STV 15 minutes average value			
Ireland	(1) 15 minutes reference period			
Italy	skin			
Latvia	(1) 15 minutes average value			
Spain	skin			
Sweden	(1) 15 minutes average value			
Turkey	(1) 15 minutes average value			
USA - NIOSH	(1) 15 minutes average value			

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.2.2. Individual protection measures, such as personal protective equipment

Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

8.2.3. Environmental exposure controls

See section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Odour	pure CAS 64-17-5: Mild, rather pleasant; like wine or whiskey; pure CAS 107-98-2: Weak pleasant odor
Odour threshold	pure CAS 64-17-5: 10 PPM; pure CAS 107-98-2: The odor of /propylene glycol monomethyl ether/ could be detected at 10 ppm.
pH	no data available
Melting point/ freezing point	pure CAS 64-17-5: -114 °C. Atm. press.: 1 atm.; pure CAS 107-98-2: -96 °C. Atm. press.: 101 325 Pa.
Initial boiling point and boiling range	pure CAS 64-17-5: 78.29°C. Atm. press.: 1 013.25 hPa.; pure CAS 107-98-2: 120.17 °C. Atm. press.: 101 325 Pa.
Flash point	pure CAS 64-17-5: 13 °C. Atm. press.: 1 atm.; pure CAS 107-98-2: 31.1 °C. Atm. press.: 101.3 hPa.
Evaporation rate	no data available
Flammability	pure CAS 64-17-5: Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.; pure CAS 107-98-2: Class IC Flammable Liquid: Fl.P. at or above 73°F and below 100°F.
Upper/lower flammability or explosive limits	pure CAS 64-17-5: Lower flammable limit: 3.3% by volume; Upper flammable limit: 19% by volume; pure CAS 107-98-2: Lower and upper flammability limits (% vol/vol) at 150 deg C in air are 1.48 and 13.74, respectively.
Vapour pressure	pure CAS 64-17-5: 57.26 hPa. Temperature: 19.6 °C.; pure CAS 107-98-2: 11.7 mm Hg. Temperature: 25 °C.; 8.5 mm Hg. Temperature: 20 °C.
Vapour density	pure CAS 64-17-5: 1.59 (vs air); pure CAS 107-98-2: 3.12 (vs air)
Relative density	pure CAS 64-17-5: 786.4 kg/m ³ . Temperature: 25 °C.; pure CAS 107-98-2: 0.92 g/cm ³ . Temperature: 25 °C.
Solubility(ies)	pure CAS 64-17-5: Miscible with water; pure CAS 107-98-2: greater than or equal to 100 mg/mL at 66° F (NTP, 1992)
Partition coefficient n-octanol/water	pure CAS 64-17-5: log Pow = -0.35. Temperature: 24 °C.; pure CAS 107-98-2: log Pow = < 1. Temperature: 20 °C.
Auto-ignition temperature	pure CAS 64-17-5: 368.8 °C. Remarks: 368.8 +/- 7.4°C.; pure CAS 107-98-2: 287 °C. Atm. press.: 101.3 hPa.
Decomposition temperature	no data available
Viscosity	pure CAS 64-17-5: dynamic viscosity (in mPa s) = 1.17. Temperature: 20°C. Remarks: Value attributed to Kirk Othmer.; pure CAS 107-98-2: dynamic viscosity (in mPa s) = 1.7. Temperature: 25.0°C.
Explosive properties	pure CAS 64-17-5: Vapour/air mixtures are explosive.; pure CAS 107-98-2: Above 38°C explosive vapour/air mixtures may be formed.
Oxidising properties	no data available

9.2. Other information

no data available

SECTION 10: Stability and reactivity

10.1. Reactivity

3300 ppm [Based on 10% of the lower explosive limit for safety considerations even though the relevant toxicological data indicated that irreversible health effects or impairment of escape existed only at higher concentrations.]

Reacts slowly with calcium hypochlorite, silver oxide and ammonia. This generates fire and explosion hazard. Reacts violently with strong oxidants such as nitric acid, silver nitrate, mercuric nitrate and magnesium perchlorate. This generates fire and explosion hazard.

10.2. Chemical stability

no data available

10.3. Possibility of hazardous reactions

Flammable liquid when exposed to heat or flame ... The vapour mixes well with air, explosive mixtures are easily formed. Acetyl chloride reacts violently with ethanol or water, [Rose, (1961)]. Acetyl bromide reacts violently with alcohols or water, [Merck 11th ed., 1989]. Mixtures of alcohols with concentrated sulfuric acid and strong hydrogen peroxide can cause explosions. Example: An explosion will occur if dimethylbenzylcarbinol is added to 90% hydrogen peroxide then acidified with concentrated sulfuric acid. Mixtures of ethyl alcohol with concentrated hydrogen peroxide form powerful explosives. Mixtures of hydrogen peroxide and 1-phenyl-2-methyl propyl alcohol tend to explode if acidified with 70% sulfuric acid, [Chem. Eng. News 45(43):73(1967); J. Org. Chem. 28:1893(1963)]. Alkyl hypochlorites are violently explosive. They are readily obtained by reacting hypochlorous acid and alcohols either in aqueous solution or mixed aqueous-carbon tetrachloride solutions. Chlorine plus alcohols would similarly yield alkyl hypochlorites. They decompose in the cold and explode on exposure to sunlight or heat. Tertiary hypochlorites are less unstable than secondary or primary hypochlorites, [NFPA 491 M, 1991]. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].

10.4. Conditions to avoid

no data available

10.5. Incompatible materials

Many explosions have been experienced during the gravimetric determination of either perchlorates or potassium as potassium perchlorate by a standard method involving ethanol extraction. During subsequent heating, formation and explosion of ethyl perchlorate is very probable.

10.6. Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

- Oral: pure CAS 64-17-5: LD50 - rat (female) - 15 010 mg/kg bw.; pure CAS 107-98-2: LD50 - rat (female) - 4 277 mg/kg bw.
- Inhalation: pure CAS 64-17-5: LC50 - mouse (male) - > 60 000 ppm.; pure CAS 107-98-2: LC0 - rat (male/female) - > 7 000 ppm.
- Dermal: pure CAS 107-98-2: LD50 - rat (male/female) - > 2 000 mg/kg bw.

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

A3; Confirmed animal carcinogen with unknown relevance to humans.

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

SECTION 12: Ecological information

12.1. Toxicity

- Toxicity to fish: pure CAS 64-17-5: LC50 - *Pimephales promelas* - 14.2 g/L - 96 h.; pure CAS 107-98-2: LC50 - *Leuciscus idus* - > 4 600 - < 10 000 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: pure CAS 64-17-5: LC50 - *Ceriodaphnia dubia* - 5 012 mg/L - 48 h.; pure CAS 107-98-2: LC0 - *Daphnia magna* - < 1 412 mg/L - 48 h.
- Toxicity to algae: pure CAS 64-17-5: EC10 - *Chlorella vulgaris* - 86 mg/L - 4 d.; pure CAS 107-98-2: EC50 - *Pseudokirchneriella subcapitata* (previous names: *Raphidocelis subcapitata*, *Selenastrum capricornutum*) - > 1 000 mg/L - 7 d.
- Toxicity to microorganisms: pure CAS 64-17-5: IC50 - activated sludge from domestic and industrial sewage treatment plants - > 1 000 mg/L - 3 h.; pure CAS 107-98-2: IC50 - activated sludge - > 1 000 mg/L - 3 h.

12.2. Persistence and degradability

AEROBIC: Ethanol was shown to biodegrade under aerobic conditions in various screening tests using different types of inocula and incubation periods(1-7). 5 day theoretical BOD values range from 37% - 86%(1,4). Biodegradation of 3, 7, and 10 mg/L ethanol with filtered sewage seed in fresh water resulted in a 74% theoretical BOD in 5 days and 84% in 20 days; in salt water 45% of the theoretical BOD was reached in 5 days and 75% was reached in 20 days(4). Formaldehyde and acetic acid are products of biodegradation by a soil inoculum(6). Ethanol present at 100 mg/L, achieved 89% of its theoretical BOD using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(7). Ethanol was rapidly degraded in aerobic microcosms prepared from low organic (0.2% organic carbon) sandy aquifer material obtained from Jurere Beach, Brazil(8). Microcosms were prepared with 20 grams of aquifer material and 50 mL of groundwater (pH 5.2). At a starting concentration of 100 mg/L, ethanol had half-lives of approximately 3 days in samples prepared with 20 mg/L of either benzene, toluene or o-xylene under aerobic conditions(8).

12.3. Bioaccumulative potential

An estimated BCF of 3 was calculated for ethanol(SRC), using a log Kow of -0.31(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

12.4. Mobility in soil

A log Koc of 0.44 has been reported for ethanol(2), corresponding to a Koc of 2.75(SRC). According to a classification scheme(2), this estimated Koc value suggests that ethanol is expected to have very high mobility in soil. Ethanol leaching was measured using a shallow sand and gravel test aquifer in Merrick Co, central Platte Valley, Nebraska which was subjected to a pulse containing 220 mg/L ethanol and 12 mg/L bromide and monitored for 2.5 months. Transport was not retarded. An average first-order decay constant was estimated of be 0.32/day, corresponding to a half-life of 2.2 days(3). A sorption coefficient on a snow surface was reported as log K = -3.04 (cu m snow surface/sq m air) at -6.8 deg C(4).

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

14.1. UN Number

ADR/RID: UN1993

IMDG: UN1993

IATA: UN1993

14.2. UN Proper Shipping Name

ADR/RID: FLAMMABLE LIQUID, N.O.S.

IMDG: FLAMMABLE LIQUID, N.O.S.

IATA: FLAMMABLE LIQUID, N.O.S.

14.3. Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

14.4. Packing group

ADR/RID: II

IMDG: II

IATA: II

14.5. Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

SECTION 15: Regulatory information

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

Chemical name	Common names and synonyms	CAS number	EC number
Ethanol	Ethyl Alcohol	64-17-5	200-578-6
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
Chemical name	Common names and synonyms	CAS number	EC number
1-methoxypropan-2-ol	Propylene Glycol Monomethyl Ether	107-98-2	203-539-1
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
Chemical name	Common names and synonyms	CAS number	EC number
none	Rosin Modified Maleic Resin	68309-40-0	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Not Listed.
Chemical name	Common names and synonyms	CAS number	EC number
Solvent Red 122	Solvent Red 122	12227-55-3	602-483-9
European Inventory of Existing Commercial Chemical Substances (EINECS)			Not Listed.
Chemical name	Common names and synonyms	CAS number	EC number
[Name confidential or not available]	Solvent Yellow 47	12227-04-2	602-460-3

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other information

Indication of changes

Version 1.0 Initial issue.

Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

Key literature references and sources for data

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Full text of H-Statements referred to under sections 2 and/or 3.

Flam. Liq. 2,H225 Flammable liquids, Category 2
H225 Highly flammable liquid and vapour.

Advice on any training appropriate for workers to ensure protection of human health and the environment

Provide sufficient information, guidance and training to operating personnel.

Disclaimer: 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. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.