Tintometer[®] Group Water Testing



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Safety data sheet according to 1907/2006/EC, Article 31

Printing date 14.11.2023 Version number 15 (replaces version 14) Revision: 14.11.2023

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

- · 1.1 Product identifier
- · Product name: Cyanide-13
- · Catalog number: 418875-13, 418874-13, 2418874 (Set: Cyanide-13)
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
- · Application of the substance / the preparation: Reagent for water analysis
- · 1.3 Details of the supplier of the safety data sheet
- · Supplier:

Tintometer GmbH Schleefstraße 8-12 44287 Dortmund Made in Germany www.lovibond.com

The Tintometer Limited Lovibond® House Sun Rise Way Amesbury Wiltshire SP4 7GR United Kingdom

· Informing department: e-mail: sds@lovibond.com Product Safety Department

· 1.4 Emergency telephone number:

+44 1235 239670 Languages: English

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms



GHS02



· Signal word Warning

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20-30%

· Hazard statements

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

· Precautionary statements

P210 Keep away from heat. - No smoking.

P261 Avoid breathing vapours.

P280 Wear protective gloves/protective clothing/eye protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to

do. Continue rinsing.

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

· 2.3 Other hazards

CAS 110-86-1: Danger by skin resorption.

Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration

· Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

· Description: Solvent mixture.

· Dangerous components:

CAS: 110-86-1

EINECS: 203-809-9

Index No: 613-002-00-7

Reg.nr.: 01-21199493105-40-XXXX

pyridine

Flam. Liq. 2, H225; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4,

H332; Skin Írrit. 2, H315; Eye Irrit. 2, H319

Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information Instantly remove any clothing soiled by the product.
- · After inhalation Supply fresh air; consult doctor in case of symptoms.
- After skin contact

Instantly rinse with water.

If skin irritation continues, consult a doctor.

· After eye contact

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

Seek medical treatment.

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

absorption

irritations

after inhalation:

mucosal irritations, cough, shortness of breath

headache

after swallowing:

sickness

vomiting

gastric pain

diarrhoea

after absorption of large amounts:

narcotic conditions

cardiovascular disorders

cyanosis

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4.3 Indication of any immediate medical attention and special treatment needed: No further relevant information available.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents Water, Carbon dioxide (CO₂), Foam, Fire-extinguishing powder
- For safety reasons unsuitable extinguishing agents

For this substance / mixture no limitations of extinguishing agents are given.

· 5.2 Special hazards arising from the substance or mixture

Can form explosive gas-air mixtures.

combustible

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Nitrogen oxides (NOx)

acrolein

- 5.3 Advice for firefighters
- · Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Suppress (knock down) gases/vapours/mists wit a water spray jet.

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

- · 6.1 Personal precautions, protective equipment and emergency procedures
- · Advice for non-emergency personnel:

Wear protective equipment. Keep unprotected persons away.

Do not breathe vapors/spray.

Ensure adequate ventilation

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

· Advice for emergency responders: Protective equipment: see section 8

· 6.2 Environmental precautions:

Do not allow product to reach sewage system or water bodies.

Prevent material from reaching sewage system, holes and cellars.

Damp down gases/fumes/haze with water spray jet.

6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, universal binders).

Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

- · 7.1 Precautions for safe handling
- · Advice on safe handling:

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Protect from heat.

Keep ignition sources away - Do not smoke.

Take action to prevent static discharges.

Hygiene measures:

Do not inhale gases / fumes / aerosols.

Take off immediately all contaminated clothing.

Wash hands during breaks and at the end of the work.

Do not eat, drink or smoke when using this product.

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- · 7.2 Conditions for safe storage, including any incompatibilities
- Requirements to be met by storerooms and containers:

Store in cool location.

Store only in the original container.

- Information about storage in one common storage facility: Store away from oxidising agents.
- · Further information about storage conditions:

Protect from heat and direct sunlight.

Protect from the effects of light.

Protect from humidity and keep away from water.

- · Recommended storage temperature: 20°C +/- 5°C
- · 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Components with limit values that require monitoring at the workplace:		
CAS: 56-81-5 Glycerol		
WEL (Great Britain)	Long-term value: 10 mg/m³	
CAS: 110-86-1 pyridine		
WEL (Great Britain)	Short-term value: 33 mg/m³, 10 ppm	
	Long-term value: 16 mg/m³, 5 ppm	
IOELV (European Union)	Long-term value: 15 mg/m³, 5 ppm	

· Regulatory information

WEL (Great Britain): EH40/2020

IOELV (European Union): (EU) 2019/1831

DNFLs

Derived No Effect Level (DNEL)

CAS: 110-86-1 pyridine				
Oral	DNEL	0.07 mg/kg (Consumer / long-term / systemic effects)		
Dermal	DNEL	0.42 mg/kg (Worker / acute / systemic effects)		
		0.14 mg/kg (Worker / long-term /systemic effects)		
		0.07 mg/kg (Consumer / long-term / systemic effects)		
Inhalative	DNEL	7.5 mg/m³ (Worker / acute / systemic effects)		
		2.5 mg/m³ (Worker / long-term /systemic effects)		
		0.6 mg/m³ (Consumer / long-term / systemic effects)		

Recommended monitoring procedures:

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

· PNECs

Predicted No Effect Concentration (PNEC)

CAS: 1	CAS: 110-86-1 pyridine		
PNEC 2 mg/l (Sewage treatment plant)			
	0.03 mg/l (Marine water)		
	3 mg/l (Aquatic intermittent release)		
	0.3 mg/l (Fresh water)		
PNEC	0.46 mg/kg (Soil)		
	0.32 mg/kg (Marine sediment)		
	3.2 mg/kg (Fresh water sediment)		

- · Additional information: The lists that were valid during the compilation were used as basis.
- · 8.2 Exposure controls
- · Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

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· Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· Eye/face protection

Safety glasses

Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.

· Hand protection

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

As protection from splashes gloves made of the following materials are suitable:

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.7 mm

Breakthrough time: > 240 min

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

- · Other skin protection (body protection): Protective work clothing.
- · Breathing equipment: Use breathing protection against the effects of fumes/dust/aerosol.
- · Recommended filter device for short term use: Combination filter A-P2

· Environmental exposure controls

Do not allow product to reach sewage system or water bodies.

Risk of explosion.

SECTION 9: Physical and chemical properties

• 9.1 Information on basic physical and chemical properties
• Physical state
Fluid

Form: LiquidColour: ColourlessOdour: Unpleasant

• **Odour threshold:** CAS 110-83-1: 0,0001 - 20,1 ppm

Melting point/Freezing point:
 Boiling point or initial boiling point and boiling range Not determined.

• Flammability Flammable liquid and vapour.

• Explosive properties: Product is not explosive. However, formation of explosive air/steam

mixtures is possible.

Not determined.

none

· Lower and upper explosion limit

Lower: 1.7 Vol % (CAS: 110-86-1 pyridine)
Upper: 11.3 Vol % (CAS: 56-81-5 Glycerol)

Flash point: ~36°C (c.c.)
 Auto-ignition temperature: Not determined.
 Decomposition temperature: Not determined.
 pH Not determined.
 Kinematic viscosity Not determined.

Kinematic viscositySolubility

· Water: Fully miscible

Partition coefficient n-octanol/water (log value) Not applicable (mixture).

· Vapour pressure:

Density and/or relative density

Density at 20°C:
 Relative density:
 Relative gas density
 Particle characteristics
 1.17 g/cm³
 Not determined.
 Not determined.
 Not applicable (liquid).

9.2 Other information

Information with regard to physical hazard classes

Corrosive to metals Void Other safety characteristics

Oxidising properties:
Additional information

· Solids content: 0 %

· Solvent content:

· Organic solvents: 100 %

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· Water:

SECTION 10: Stability and reactivity

- · 10.1 Reactivity Fumes can combine with air to form an explosive mixture.
- 10.2 Chemical stability Stable at ambient temperature (room temperature).
- · 10.3 Possibility of hazardous reactions

Reacts with strong acids and oxidizing agents.

Reacts with halogenated compounds

Reacts with peroxides

Perchlorates

Polymerisation

- ---> Explosive
- 10.4 Conditions to avoid Heating.
- · 10.5 Incompatible materials:

metals

rubber

various plastics

· 10.6 Hazardous decomposition products:

Inflammable gases/vapours In case of fire: see section 5.

SECTION 11: Toxicological information

- · 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
- · Acute toxicity Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:			
CAS: 110-86-1 pyridine			
Oral	LD50	891 mg/kg (rat) (RTECS)	
Dermal	LD50	1121 mg/kg (rabbit) (RTECS)	
Inhalative	LC50/4h	17.75 mg/l (rat) (Vapour) (Registrant, ECHA)	

- Skin corrosion/irritation Causes skin irritation.
- · Serious eye damage/irritation Causes serious eye irritation.

			on caucoc concac cyc innancin
· Information on components:			
CAS: 110-86-1 pyridine			
	Irritation of skin	OECD 404	(rabbit: slight irritation)
	Irritation of eyes	OECD 405	(rabbit: severe irritations)

· Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

· Information on components:		
CAS: 110-86-		
Sensitisation	OECD 406	(guinea pig: negative)
	OECD 429	(negative)
		(mouse)

- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- · Reproductive toxicity Based on available data, the classification criteria are not met.

· Information on components:		
CAS: 110-86-1 pyridine		
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)	
OECD 473	(negative) (Mammalian Chromosomal Aberration Test)	
OECD 474	(negative) (Mammalian Erythrocyte Micronucleus Test)	

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- STOT (specific target organ toxicity) -single exposure Based on available data, the classification criteria are not met.
- · STOT (specific target organ toxicity) -repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.
- · 11.2 Information on other hazards
- · Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.
- Other information

Other dangerous properties can not be excluded.

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

CAS: 110-86-1 pyridine

EC50 240 mg/l/48h (Daphnia magna)

(ECOTOX)

LC50 4.6 mg/l/96h (rainbow trout)

(ECOTOX)

· Bacterial toxicity:

CAS: 110-86-1 pyridine

EC5 3.5 mg/l (Entosiphon sulcatum) (72h)

340 mg/l (Pseudomonas putida) (16h)

- 12.2 Persistence and degradability No further relevant information available
- 12.3 Bioaccumulative potential

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

CAS: 110-86-1 pyridine

log Pow 0.65 (.) (experimental)

- 12.4 Mobility in soil No further relevant information available.
- · 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

- 12.6 Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.
- 12.7 Other adverse effects Avoid transfer into the environment.
- · Water hazard:

Do not allow product to reach ground water, water bodies or sewage system.

Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to disposers of hazardous waste.

European waste catalogue

16 05 08* discarded organic chemicals consisting of or containing hazardous substances

- Uncleaned packagings:
- · **Recommendation:** Disposal must be made according to official regulations.
- · Recommended cleaning agent: Water, if necessary with cleaning agent.

-GB -

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SECTION 14: Transport information

14.1 UN number or ID number

· ADR, IMDG, IATA UN1993

· 14.2 UN proper shipping name

ADR 1993 FLAMMABLE LIQUID, N.O.S. (PYRIDINE)
IMDG, IATA 1993 FLAMMABLE LIQUID, N.O.S. (PYRIDINE)

· 14.3 Transport hazard class(es)

· ADR



· Class 3 (F1) Flammable liquids.

· Label

· IMDG, IATA



· Class 3 Flammable liquids.

· Label

· 14.4 Packing group

· ADR, IMDG, IATA III

· 14.5 Environmental hazards: Not applicable.

• 14.6 Special precautions for user Warning: Flammable liquids.

 Kemler Number:
 30

 EMS Number:
 F-E,S-E

 Stowage Category
 A

· 14.7 Maritime transport in bulk according to IMO

instruments Not applicable.

· Transport/Additional information:

· ADR

Limited quantities (LQ)Excepted quantities (EQ)5LCode: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· Transport category 3 · Tunnel restriction code D/E

·IMDG

Limited quantities (LQ)Excepted quantities (EQ)Code: E1

Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Poisons Act UK
- Regulated explosives precursors

None of the ingredients is listed.

· Regulated poisons

None of the ingredients is listed.

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· Reportable explosives precursors

None of the ingredients is listed.

· Reportable poisons

None of the ingredients is listed.

- · Regulation (EU) 2019/1148 on the marketing and use of explosives precursors not regulated
- Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)

None of the ingredients is listed.

· Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

· Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)

None of the ingredients is listed.

· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

None of the ingredients is listed.

· Substances of very high concern (SVHC) according to REACH, Article 57

This product does not contain any substances of very high concern above the legal concentration limit of ≥ 0.1% (w / w).

Substances of very high concern (SVHC) according to UK REACH

This product does not contain any substances of very high concern above the legal concentration limit of ≥ 0.1% (w / w).

- · Directive 2012/18/EU (SEVESO III):
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- Seveso category P5c FLAMMABLE LIQUIDS
- Qualifying quantity (tonnes) for the application of lower-tier requirements 5000 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 50000 t
- · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- · Information about limitation of use:

Employment restrictions concerning pregnant and lactating women must be observed (92/85/EEC).

- · National regulations
- VOC-value EC: 327.6 g/l
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheets is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· Training hints Provide adequate information, instruction and training for operators.

Relevant phrases

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

· Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure RE: repeated exposure

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EC50: half maximal effective concentration

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IC50: half maximal inhibitory concentration NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of

Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods

International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic SVHC: Substances of Very High Concern vPvB: very Persistent and very Bioaccumulative Flam. Liq. 2: Flammable liquids – Category 2 Flam. Liq. 3: Flammable liquids – Category 3 Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

· Sources

Data arise from safety data sheets, reference works and literature.

RTECS (Registry of Toxic Effects of Chemical Substances)

* Data compared to the previous version altered.

GR ·