

Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 06/23/2022

Reviewed on 06/23/2022

1 Identification

- **Product identifier**
- **Trade name: Anionic / Polyamine Solvent P1/M**
- **Catalogue number:** 56Z703498, 56L7034, 56L703430, 56L703450, 56U703430, 56U703450, SDT087
- **CAS Number:**
67-66-3
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Toxicity - Inhalation 3

H331 Toxic if inhaled.



GHS08 Health hazard

Carcinogenicity 2

H351 Suspected of causing cancer.

Toxic to Reproduction 2

H361 Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure 1

H372 Causes damage to the kidneys and the liver through prolonged or repeated exposure.



GHS07

Acute Toxicity - Oral 4

H302 Harmful if swallowed.

Skin Irritation 2

H315 Causes skin irritation.

Eye Irritation 2A

H319 Causes serious eye irritation.

- **Label elements**

- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS06



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**
trichloromethane

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Hazard statements

- H302 Harmful if swallowed.
- H331 Toxic if inhaled.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H351 Suspected of causing cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H372 Causes damage to the kidneys and the liver through prolonged or repeated exposure.

Precautionary statements

- P260 Do not breathe mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection.
- P201 Obtain special instructions before use.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P302+P352 If on skin: Wash with plenty of water.
- P405 Store locked up.

Other hazards

- Contact with skin and inhalation of aerosols/ vapours of the preparation should be avoided.
 - Vapors have narcotic effect.
 - CAS 67-66-3: Danger through skin absorption.
 - At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.
-

3 Composition/information on ingredients

Chemical characterization: Substances**CAS No. Description**

CAS: 67-66-3 trichloromethane

EC number: 200-663-8**Impurities and stabilising additives: CAS 513-35-9: $\geq 0.001\%$ - $\leq 0.015\%$**

4 First-aid measures

Description of first aid measures**General information:**

- Personal protection for the First Aider.
- Immediately remove any clothing soiled by the product.

After inhalation:

- Supply fresh air or oxygen; call for doctor.
- In case of irregular breathing or respiratory arrest provide artificial respiration.

After skin contact:

- Immediately rinse with plenty of water.
- Seek medical treatment.

After eye contact: Rinse opened eye for several minutes (at least 15 min) under running water. Then consult a doctor.**After swallowing:**

- Rinse out mouth and then drink 1-2 glasses of water.
- Do not induce vomiting; immediately call for medical help.

Most important symptoms and effects, both acute and delayed

- irritations
- Drying-out effect resulting in rough and chapped skin.
- resorption
- after inhalation:
 - dizziness
 - drowsiness
 - headache
 - fatigue
 - cardiovascular disorders
 - unconsciousness
 - respiratory paralysis
- after swallowing:
 - mucous membrane irritation
 - pain
 - vomiting

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narcotic conditions

· Danger:

- Danger of impaired breathing.
- Danger of disturbed cardiac rhythm.
- Danger of pulmonary edema.
- Condition may deteriorate with alcohol consumption.

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

5 Fire-fighting measures

· Extinguishing media

- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

· Special hazards arising from the substance or mixture

- The product is not combustible.
- Formation of toxic gases is possible during heating or in case of fire.
- In case of fire, the following can be released:

- Phosgene gas
- Hydrogen chloride (HCl)
- Carbon monoxide (CO) and carbon dioxide (CO₂)

· Advice for firefighters**· Protective equipment:**

- Wear self-contained respiratory protective device.
- Wear fully protective suit.

· Additional information

- Collect contaminated fire fighting water separately. It must not enter the sewage system.
 - Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
 - Ambient fire may liberate hazardous vapours.
-

6 Accidental release measures

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

- Wear protective equipment. Keep unprotected persons away.
- Avoid substance contact.
- Do not breathe vapors/spray.
- Ensure adequate ventilation
- Use respiratory protective device against the effects of fume/dust/aerosol.

· Advice for emergency responders:

- Protective equipment: see section 8
- Mount respiratory protective device.

- **Environmental precautions:** Do not allow product to reach sewage system or any water course.

· Methods and material for containment and cleaning up:

- Ensure adequate ventilation.
- Absorb with liquid-binding material (sand, diatomite, universal binders).
- Dispose contaminated material as waste according to item 13.

· Reference to other sections

- See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.
-

7 Handling and storage

· Precautions for safe handling**· Advice on safe handling:**

- Open and handle receptacle with care.
- Prevent formation of aerosols.
- Work only in fume cabinet.

· Hygiene measures:

- Do not inhale gases / fumes / aerosols.
- Do not get in eyes, on skin, or on clothing.
- Take off immediately all contaminated clothing.
- Store protective clothing separately.

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Wash hands before breaks and at the end of work.
Do not eat, drink or smoke when using this product.

- **Conditions for safe storage, including any incompatibilities**
 - **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Due to photo-sensitivity, store product in brown-glass or stainless steel receptacles.
Unsuitable material for container: plastics
Unsuitable material for receptacle: aluminium
 - **Information about storage in one common storage facility:** Store away from oxidizing agents.
 - **Further information about storage conditions:**
Store locked up or with access restricted to technical experts or their assistants.
Ensure that persons do not handle until all safety precautions have been read and understood.
Store receptacle in a well ventilated area.
Protect from heat and direct sunlight.
Store in the dark.
Protect from exposure to the light.
Protect from humidity and water.
 - **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)
 - **Specific end use(s)** No further relevant information available.
-

8 Exposure controls/personal protection

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

CAS: 67-66-3 trichloromethane

PEL (USA)	Ceiling limit value: 240 mg/m ³ , 50 ppm
REL (USA)	Short-term value: 9.78* mg/m ³ , 2* ppm *60-min; See Pocket Guide App. A
TLV (USA)	Long-term value: 10 ppm A3
EL (Canada)	Long-term value: 2 ppm IARC 2B; R
EV (Canada)	Long-term value: 49 mg/m ³ , 10 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See item 7.
- **Personal protective equipment:**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Breathing equipment:** Use respiratory protective device against the effects of fume/dust/aerosol.
- **Recommended filter device for short term use:** Filter AX
- **Protection of hands:**
Protective gloves
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Fluorocarbon rubber (Viton)
Recommended thickness of the material: ≥ 0.7 mm
- **Penetration time of glove material**
Breakthrough time: > 480 min
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**
Safety glasses
Use protective goggles that have been tested and approved in accordance with government standards (like NIOSH).
- **Body protection:** Solvent resistant protective clothing

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- **Limitation and supervision of exposure into the environment:**
Do not allow product to reach sewage system or any water course.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **Appearance:**
- **Form / Physical state:** Liquid
- **Color:** Colorless
- **Odor:** Sweetish
- **Odor threshold:** CAS 67-66-3: 205ppm (Merck)
- **pH-value:** Mixture is non-polar/aprotic.
- **Melting point/freezing point:** -63°C (-81.4°F)
- **Initial boiling point and boiling range:** 61°C (141.8°F)
- **Flash point:** Not applicable.
- **Flammability (solid, gas):** The product is not combustible.
- **Ignition temperature:** Not applicable.
- **Decomposition temperature:** Not applicable.
- **Auto-ignition temperature:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Flammability or explosive limits:**
- **Lower:** Not applicable.
- **Upper:** Not applicable.
- **Oxidizing properties:** none
- **Vapor Pressure at 20°C (68°F):** 210 hPa (157.5 mm Hg)
- **Density at 20°C (68°F):** 1.48 g/cm³ (12.35 lbs/gal)
- **Relative density:** Not determined.
- **Vapor density:** Not determined.
- **Evaporation rate:** Not determined.
- **Solubility(ies)**
- **Water at 20°C (68°F):** 8 g/l
Not miscible or difficult to mix.
- **organic solvents:** Miscible with many organic solvents.
- **Partition coefficient (n-octanol/water):** 1.97 log POW
- **Viscosity:**
- **Kinematic:** Not determined.
- **Other information**
- **Organic solvents:** 100.0 %

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability**
Stable at ambient temperature (room temperature).
Contains the following stabiliser:
CAS 513-35-9: ≥ 0.001% - ≤ 0.015%
sensitivity to light
heat-sensitive
- **Possibility of hazardous reactions**
Reacts with powdered metals.
Reacts with strong oxidizing agents.
Reacts with strong alkali.
- **Conditions to avoid** Strong heating (decomposition)
- **Incompatible materials:**
rubber
various plastics
aluminum
- **Hazardous decomposition products:**
Phosgene
Hydrogen chloride (HCl)

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In case of fire: see section 5.

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

Harmful if swallowed.

Toxic if inhaled.

· LD/LC50 values that are relevant for classification:

CAS: 67-66-3 trichloromethane

Oral	LD50	695 mg/kg (rat) (RTECS)
Inhalative	LC50/4h	3 mg/l (ATE) (Vapour)

· Primary irritant effect:

- **on the skin:** Causes skin irritation.

- **on the eye:** Causes serious eye irritation.

- **Sensitization:** Based on available data, the classification criteria are not met.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

2B

· NTP (National Toxicology Program)

R

· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

- **Other information:** see section 8 / 15

- **Synergistic Products:** None

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):

Carcinogenicity 2, Toxic to Reproduction 2

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

- **Carcinogenicity** Suspected of causing cancer.

- **Reproductive toxicity** Suspected of damaging fertility or the unborn child.

- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

- **STOT (specific target organ toxicity) -repeated exposure**

Causes damage to the kidneys and the liver through prolonged or repeated exposure.

- **Aspiration hazard** Based on available data, the classification criteria are not met.

· Additional toxicological information:

CAS: 67-66-3 trichloromethane

(source: GESTIS)

Main toxic effects:

acute: Irritant effect on eyes and skin, disruption of the central nervous system (narcotic effect) and cardiac function;

Functional disorders and damage to the liver and kidneys

chronic: liver damage, also kidney damage in animal experiments and local changes in the nasal mucosa after inhalation

Further information:

The sweet odor of T. can be perceived from around 200 ppm (approx. 1000 mg/m³). In the case of prolonged or repeated exposure in particular, this does not suffice as a warning effect, since toxic effects occur even below this concentration.

· Other information

This substance / mixture should be handled with particular care.

Other dangerous properties can not be excluded.

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12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

CAS: 67-66-3 trichloromethane

EC50	79 mg/l/48h (Daphnia magna) (IUCLID)
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NOEC	120 mg/l (Daphnia magna) (11d)
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LC50	18 mg/l/96h (bluegill) (IUCLID)
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- **Persistence and degradability**

CAS: 67-66-3 trichloromethane

OECD 301 C	0 % / 14 d (not biodegradable)
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- **Bioaccumulative potential**

Pow = n-octanol/wasser partition coefficient

log Pow 1-3 = Not worth-mentioning accumulating in organisms.

CAS: 67-66-3 trichloromethane

log Pow	1.97 (.)
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- **Mobility in soil** No further relevant information available.

- **Other adverse effects** Avoid transfer into the environment.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

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

Hand over to hazardous waste disposers.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**

- **DOT, IMDG, IATA**

UN1888

- **UN proper shipping name**

- **DOT**

- **IMDG, IATA**

Chloroform

CHLOROFORM

- **Transport hazard class(es)**

- **DOT**



- **Class**

- **Label**

6.1 Toxic substances

6.1

- **IMDG, IATA**



- **Class**

- **Label**

6.1 Toxic substances

6.1

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· Packing group · DOT, IMDG, IATA	III
· Environmental hazards:	Not applicable.
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Segregation groups · Stowage Category · Stowage Code	Warning: Toxic substances 60 F-A,S-A Liquid halogenated hydrocarbons A SW2 Clear of living quarters.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information: · DOT · Quantity limitations	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture · Sara	
· Section 355 (Extremely hazardous substances):	Substance is listed.
· Section 313 (Specific toxic chemical listings):	Substance is listed.
· TSCA (Toxic Substances Control Act):	ACTIVE
· Hazardous Air Pollutants	Substance is listed.
· Proposition 65	
· Chemicals known to cause cancer:	CAS: 67-66-3 trichloromethane
· Chemicals known to cause reproductive toxicity for females:	Substance is not listed.
· Chemicals known to cause reproductive toxicity for males:	Substance is not listed.
· Chemicals known to cause developmental toxicity:	CAS: 67-66-3 trichloromethane
· New Jersey Right-to-Know List:	Substance is listed.
· New Jersey Special Hazardous Substance List:	CA
· Pennsylvania Right-to-Know List:	Substance is listed.
· Pennsylvania Special Hazardous Substance List:	ES
· EPA (Environmental Protection Agency)	B2, L, NL

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US

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· NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance / one ingredient is listed.

· **US-VOC content:** 1479.9 g/l / 12.35 lb/gal· **Information about limitation of use:**

Observe national regulations where applicable:

Employment restrictions concerning pregnant and lactating women must be observed.

Employment restrictions concerning young persons must be observed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Recommended restriction of use:** professional/industrial use only· **Date of preparation / last revision** 06/23/2022 / -· **Abbreviations and acronyms:**

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ACGIH® - American Conference of Governmental Industrial Hygienists

•A1 - Confirmed human carcinogen

•A2 - Suspected human carcinogen

•A3 - Confirmed animal carcinogen with unknown relevance to humans

•A4 - Not classifiable as a human carcinogen

•A5 - Not suspected as a human carcinogen

IARC - International Agency for Research on Cancer

•Group 1 - Carcinogenic to humans

•Group 2A - Probably carcinogenic to humans

•Group 2B - Possibly carcinogenic to humans

•Group 3 - Not classifiable as to carcinogenicity to humans

•Group 4 - Probably not carcinogenic to humans

NTP - National Toxicology Program, U.S. Department of Health and Human Services

•Group K - Known to be Human Carcinogens

•Group R - Reasonably Anticipated to be Human Carcinogens

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Toxicity - Oral 4: Acute toxicity – Category 4

Acute Toxicity - Inhalation 3: Acute toxicity – Category 3

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

Carcinogenicity 2: Carcinogenicity – Category 2

Toxic to Reproduction 2: Reproductive toxicity – Category 2

Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1

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