

Hazardous according to criteria of Australian Safety and Compensation Council






## 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Method 625 3,3'Dichlorobenzidine
- **Article number:** N9331057
- **Application of the substance / the preparation** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
PerkinElmer Life and Analytical Sciences  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
-----
- **Supplier/Local:**  
-----  
PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia
- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)
- **Local Emergency Number** CHEMTREC - (Within Australia) +(61)-290372994

## 2 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of substances listed below with nonhazardous additions.

### · **Dangerous components:**

CAS: 67-56-1 EINECS: 200-659-6	methanol -----  Flam. Liq. 2, H225  Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331  STOT SE 1, H370	75-100%
CAS: 91-94-1 EINECS: 202-109-0	3,3'-dichlorobenzidine -----  Carc. 1B, H350  Acute Tox. 4, H312; Skin Sens. 1, H317	≤ 2,5%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

## 3 Hazards identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.

(Contd. on page 2)

**Trade name: Method 625 3,3'Dichlorobenzidine**

(Contd. of page 1)



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 health hazard

Carc. 1B H350 May cause cancer.

STOT SE 1 H370 Causes damage to organs.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Toxic

May cause cancer. Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.



Sensitising

May cause sensitisation by skin contact.



Highly flammable

Highly flammable.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

· **Code letter and hazard designation of product:**

Toxic

Highly flammable

· **Hazard-determining components of labelling:**

methanol

3,3'-dichlorobenzidine

· **Risk phrases:**

May cause cancer.

Highly flammable.

Also toxic by inhalation, in contact with skin and if swallowed.

Also toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

(Contd. on page 3)

**Trade name: Method 625 3,3'Dichlorobenzidine**

(Contd. of page 2)

*May cause sensitisation by skin contact.*

*Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*

· **Safety phrases:**

*Avoid exposure - obtain special instructions before use.*

*Keep away from living quarters.*

*Keep container tightly closed and in a well-ventilated place.*

*Wear suitable protective clothing, gloves and eye/face protection.*

*In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).*

*Avoid release to the environment. Refer to special instructions/safety data sheets.*

· **Additional information:** Void

· **Other hazards**

*The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.*

\* **4 First aid measures**

· **General information:**

*Immediately remove any clothing soiled by the product.*

*Remove breathing equipment only after contaminated clothing have been completely removed.*

*In case of irregular breathing or respiratory arrest provide artificial respiration.*

· **After inhalation:**

*Supply fresh air or oxygen; call for doctor.*

*In case of unconsciousness place patient stably in side position for transportation.*

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:** Do not induce vomiting; call for medical help immediately.

\* **5 Firefighting measures**

· **Suitable extinguishing agents:**

*CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*

· **Special hazards arising from the substance or mixture** No further relevant information available.

· **Protective equipment:** Mouth respiratory protective device.

**6 Accidental release measures**

· **Personal precautions, protective equipment and emergency procedures**

*Wear protective equipment. Keep unprotected persons away.*

· **Environmental precautions:**

*Do not allow product to reach sewage system or any water course.*

*Inform respective authorities in case of seepage into water course or sewage system.*

*Dilute with plenty of water.*

*Do not allow to enter sewers/ surface or ground water.*

· **Methods and material for containment and cleaning up:**

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

*Dispose contaminated material as waste according to item 13.*

*Ensure adequate ventilation.*

· **Reference to other sections**

*See Section 7 for information on safe handling.*

*See Section 8 for information on personal protection equipment.*

(Contd. on page 4)

**Trade name: Method 625 3,3'Dichlorobenzidine**

(Contd. of page 3)

See Section 13 for disposal information.

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

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

### 67-56-1 methanol

NES (Australia)	Short-term value: 328 mg/m <sup>3</sup> , 250 ppm
	Long-term value: 262 mg/m <sup>3</sup> , 200 ppm
	Sk

### 91-94-1 3,3'-dichlorobenzidine

NES (Australia)	Sk
-----------------	----

- **Additional information:** The lists valid during the making were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Avoid contact with the eyes and skin.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

(Contd. on page 5)

**Trade name: Method 625 3,3'Dichlorobenzidine**

(Contd. of page 4)

*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*

· **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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

**9 Physical and chemical properties**

· **General Information**

· **Appearance:**

· <b>Form:</b>	Liquid
· <b>Colour:</b>	Colourless
· <b>Odour:</b>	Alcohol-like
· <b>Odour threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· <b>Melting point/Melting range:</b>	-98 °C
· <b>Boiling point/Boiling range:</b>	64 °C

· **Flash point:** ≤ 21 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 455 °C

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

· <b>Lower:</b>	5,5 Vol %
· <b>Upper:</b>	44 Vol %

· **Vapour pressure at 20 °C:** 128 hPa

· <b>Density at 20 °C:</b>	0,79 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.

· **Solubility in / Miscibility with water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

(Contd. on page 6)

**Trade name: Method 625 3,3'Dichlorobenzidine**

(Contd. of page 5)

· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	99,0 %
· <b>Solids content:</b>	
	1,0 %
· <b>Other information</b>	
	No further relevant information available.

\* **10 Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

**11 Toxicological information**

· **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

**67-56-1 methanol**

Dermal	LD50	15800 mg/kg (rabbit)
--------	------	----------------------

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:** Sensitization possible through skin contact.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Toxic

Irritant

Carcinogenic.

\* **12 Ecological information**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Harmful to fish

· **Additional ecological information:**

· **General notes:**

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Harmful to aquatic organisms

AU

(Contd. on page 7)



**Trade name: Method 625 3,3'Dichlorobenzidine**

(Contd. of page 6)

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### \* 14 Transport information

· <b>UN-Number</b> · <b>ADR, IMDG, IATA</b>	UN3287
· <b>UN proper shipping name</b> · <b>ADR</b> · <b>IMDG, IATA</b>	3287 TOXIC LIQUID, INORGANIC, N.O.S. (METHANOL) TOXIC LIQUID, INORGANIC, N.O.S. (METHANOL)
· <b>Transport hazard class(es)</b> · <b>ADR</b>	
	
· <b>Class</b> · <b>Label</b>	6.1 (T4) Toxic substances. 6.1
· <b>IMDG, IATA</b>	
	
· <b>Class</b> · <b>Label</b>	6.1 Toxic substances. 6.1
· <b>Packing group</b> · <b>ADR, IMDG, IATA</b>	II
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b>	Warning: Toxic substances. 60 F-A,S-A
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b> · <b>Limited quantities (LQ)</b> · <b>Transport category</b>	100 ml 2

(Contd. on page 8)



**Trade name: Method 625 3,3'Dichlorobenzidine**

(Contd. of page 7)

· <b>Tunnel restriction code</b>	D/E
· <b>UN "Model Regulation":</b>	UN3287, TOXIC LIQUID, INORGANIC, N.O.S. (METHANOL), 6.1, II

### 15 Regulatory information

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

· **Standard for the Uniform Scheduling of Drugs and Poisons**

67-56-1	methanol	S5, S6
---------	----------	--------

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

· **Code letter and hazard designation of product:**

Toxic  
Highly flammable

· **Hazard-determining components of labelling:**

methanol  
3,3'-dichlorobenzidine

· **Risk phrases:**

May cause cancer.  
Highly flammable.  
Also toxic by inhalation, in contact with skin and if swallowed.  
Also toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.  
May cause sensitisation by skin contact.  
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Safety phrases:**

Avoid exposure - obtain special instructions before use.  
Keep away from living quarters.  
Keep container tightly closed and in a well-ventilated place.  
Wear suitable protective clothing, gloves and eye/face protection.  
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
Avoid release to the environment. Refer to special instructions/safety data sheets.

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.  
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· **Waterhazard class: Water hazard class 3 (Self-assessment): extremely hazardous for water.**

### 16 Other information

**Disclaimer**

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and

(Contd. on page 9)



**Trade name: Method 625 3,3'Dichlorobenzidine**

(Contd. of page 8)

*should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.*

· **Relevant phrases**

*H225 Highly flammable liquid and vapour.*

*H301 Toxic if swallowed.*

*H311 Toxic in contact with skin.*

*H312 Harmful in contact with skin.*

*H317 May cause an allergic skin reaction.*

*H331 Toxic if inhaled.*

*H350 May cause cancer.*

*H370 Causes damage to organs.*

· **Department issuing MSDS:**

*PerkinElmer*

*Lvl 2, Bldg 5, Brandon Office Park*

*530-540 Springvale Road*

*Glen Waverley*

*Melbourne*

*VIC 3150*

*Australia*

*Telephone : +61 3-9212-8500*

*Telephone : 1 800-066-776 (Service)*

*Telephone : 1 800-033-391 (Sales)*

*FAX : +61 3-9212-8595*

· **Contact:**

*With in the USA: 1-(800)-762-4000*

*Out side the USA: 1-(203)-712-8488*

· **Abbreviations and acronyms**

*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*

*ICAO: International Civil Aviation Organization*

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

· **\* Data compared to the previous version altered.**