

MATERIAL SAFETY DATA SHEET

SECTION 1 IDENTIFICATION

Manufacturers Name & Address: New Decade Investments (Pty) Ltd. t/a Durotec ,
P.O. Box 12540, Centrahil 6006 Port Elizabeth, South Africa

Phone: +27 (0) 41 585 5578

Product Name: Pentaclean

Product Code: 12650

Product Type/General Information: Disinfectant detergent

Registration Number: South Africa: ACT29GNR529/244678/110/441

Chemical Name: (active ingredient) 2% glutaraldehyde

Hazardous Chemicals: *Glutaraldehyde*

Routes of Entry: *Inhalation X Skin/Eye X Ingestion X*

SECTION 2 Hazardous Ingredients/Identity Information

Pentaclean contains the following hazardous ingredients at concentrations greater than 1.0%

CHEMICAL COMPONENTS: Glutaraldehyde (active ingredient)
CAS#: 111-30-8
%w/v: 2%
OSHA PEL: 0.2 ppm¹
ACGIH TLV: 0.05 ppm

Pentaclean does not contain any of the following hazardous ingredients listed as carcinogens or potential carcinogens by the National Toxicology Program (NTP), International Agency on Cancer (IARC) or OSHA, and present at a concentration greater than 0.1%:

CHEMICAL COMPONENTS: None
CAS#: n/a
%v/w: n/a

¹The OSHA Permissible Exposure Level (PEL) for glutaraldehyde was invalidated in 1992 by court order. However, the PEL may remain valid in some OSHA approved state plans, and also can be enforced by federal OSHA under the General Duty Clause.

SECTION 3 Physical/Chemical Characteristics

Boiling Point:	100°C	Evaporation Rate:	n/a
Specific Gravity:	1.008 - 1.009	Solubility (H₂O):	Complete
Vapour Pressure:	16.9 mmHg	Appearance & Colour:	A clear orange liquid with fragrance of grapefruit
Melting Point:	n/a	pH:	Between 5.5 and 7.8
Vapour Density:	1.1 (air =1)	Molecular Weight:	Proprietary
Freezing Point:	0°C/32°F (Same as Water)		
Percent Volatile by Vol.:	Not detectable at normal usage dilution		

SECTION 4 Fire and Explosion Hazard Data

Flash Point (Test Method): None (Tag Closed Cup ASTM D 56)

Special Fire Fighting Procedures: Self-Contained Breathing Apparatus (SCBA) and protective clothing should be worn when fighting chemical fires.

Unusual Fire and Explosion Hazards: None known

Extinguishing Media: Carbon dioxide, foam, dry chemical.

SECTION 5 Reactivity Data

Stability: Unstable __ Stable **X**

Hazardous Polymerisation: May Occur __ Will Not Occur **X** at temperature between -4°C and +40°C

Hazardous Decomposition Products: Thermal decomposition may produce toxic oxides of carbon.

Conditions and Materials to Avoid: Enzyme cleaners, Ammonia, Amine containing products.

SECTION 6 Health Hazard Data

Route of Entry:

Inhalation:**X** Skin/Eye:**X** Ingestion:**X**

Signs and Symptoms Associated with Overexposure (one-time or repeated):

- a) **Ingestion for solution containing 2% glutaraldehyde or higher:** May cause irritation and possibly chemical burns of the mouth, throat, stomach and oesophagus. May produce discomfort in the mouth, throat, chest and abdomen, nausea, vomiting, diarrhoea, dizziness, faintness drowsiness, thirst and weakness.
- b) **Eyes:** Solution contact may cause damage, including severe corneal injury, which could permanently impair vision if prompt first-aid and medical treatment are not obtained. Vapours may cause stinging sensation in the eye with excess tear production, blinking, and redness of the conjunctiva.
- c) **Skin:** Not skin irritant. Avoid contact on existing dermatitis. May also cause skin to turn a harmless yellow or brown colour.
- d) **Inhalation:** Vapour is irritating to the respiratory tract. May cause stinging sensations in the nose and throat chest discomfort and tightening, difficulty with breathing and headache. May also aggravate pre-existing asthma and pulmonary disease.

Emergency and First Aid Procedure:

Ingestion: DO NOT INDUCE VOMITING. Drink large quantities of water and call a physician immediately.

NOTE TO PHYSICIAN: Probable mucosal damage from oral exposure may contraindicate the use of gastric pump.

Eyes: Immediately flush eyes with water and continue washing for at least 15 minutes. Obtain medical attention immediately, and follow up with an ophthalmologist.

Skin: Remove contaminated clothing and flush skin with soap and water for a minimum of 15 minutes. If irritation persists, seek medical attention. Wash or discard contaminated clothing.

Inhalation: Remove to fresh air. Give artificial respiration if not breathing. If breathing is difficult, qualified personnel may give oxygen. If irritation persists, seek medical help.

Medical Conditions Generally Aggravated by Overexposure: See above.

SECTION 7 Precautions For Safe Handling and Use

- **Steps to be Taken if Material is Released or Spilled:** Wear suitable protective equipment, including nitrile (not PVC) gloves. A respirator is essential for large spills, or if you experience discomfort, watery eyes, nasal or respiratory irritation due to inadequate ventilation. For small spills of 5litres or less, gather up a bucket, household ammonia, and a sponge or mop. Don protective equipment and mix approximately 1 cup of ammonia with 1 cup of water in the bucket. Mop or sponge the ammonia mixture into the spill until thoroughly combined (about 2 minutes). Wipe or mop up resulting spill area a final wipe or mop with fresh water. Rinse all equipment, and allow spill area to dry. For large spills of more than 5litres, remove people from immediate spill area, and isolate until cleaned up. Don protective equipment including a respirator with organic vapour cartridges. Contain spill with absorbent material, i.e. towels. Add approximately 46 grams of sodium bisulphite powder per litre of Pentaclean spilled (aqueous sodium hydroxide and ammonium will also neutralize glutaraldehyde). With a sponge, mix neutralizing chemical into spill, and allow 5 minutes for deactivation to occur. Discard resulting mixture according to your facility's waste disposal guidelines. Mop spill area with fresh water. Rinse out all equipment (bucket, mop, towel) with large amount of water. If paper towels were used, dispose of in a tightly closed trash bag. Let spill area dry, and if possible increase ventilation. Once glutaraldehyde order is below allowable levels (TLV), the area may be release from isolation.
- **Waste Disposal Method:** Dispose of Pentaclean after 30 days of re-use. This may be accomplished by pouring solution down the drain in accordance with state and local regulations. Flush with a large quantity of water. Do not reuse empty containers. Rinse thoroughly with water and dispose of in trash.
- **Precautions to be taken in Handling and Storing:** Pentaclean should be stored in its original sealed container at room temperature (15°C to 30°C).
- **Precautionary labelling:** Avoid contact with eyes, prolonged and repeated contact with skin, and contamination with food.

SECTION 8 Transportation Data & Additional Information

Proper Shipping Name:	2% Glutaraldehyde Solution	DOT (ground):	Not regulated
IATA (air):	Not regulated	IMO (ocean):	Not regulated
Hazard Class:	None	Labels:	None needed
ID#:	None	Special Instructions:	None
Reportable Quantity:	None		

SECTION 9 Control Measures

- **Eye Protection:** Safety glasses, goggles or face shield recommended when working with Pentaclean. An eyewash should be available for emergency situations. **Medical attention should be sought after any contact between Pentaclean and eyes.**
- **Ventilation:** Pentaclean should be used in closed containers with tight fitting lids. The working area should be large enough with ventilation necessary to keep the level of atmospheric glutaraldehyde below the Threshold Limit Value (TLV). If the solution vapours are irritating to eyes and nose, the TLV is probably being exceeded, and additional ventilation may be necessary.
- **Skin Protection:** Nitrile gloves should be worn when working with Pentaclean. Rubber boots may be needed to contain large spills.
- **Respiratory Protection:** None required if glutaraldehyde vapour levels are below the TLV.

SECTION 10 Special Requirements

NONE

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