1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product name	MasimoSol D100
Product Code	MAS 2003
Registration number	01-2119456620-43-002
CAS –No.	64742-47-8
Supplier	Masimo Chemicals South Africa (PTY) Ltd G9 Arbour Grove Office Park 10 Oppenheimer Road Amanzimtoti, Durban,4120
Emergency Telephone - South Africa	+27 (0)82 430 9754 +27 (0)83 638 0165

Recommended use of the chemical and restrictions on use

Recommended use	Industrial Solvent Please refer to Ch16 for the registered uses under REACH.
Restrictions on use	This product must not be used in applications other than the above without first seeking the advice of the supplier.

2. HAZARDS IDENTIFICATION

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms : 

Signal word : Danger

- Health Statement

  PHYSICAL HAZARDS:
  Not classified as a physical hazard according to CLP criteria.
  HEALTH HAZARDS:
  H304 May be fatal if swallowed and enters airways.
  ENVIRONMENTAL HAZARDS:
  Not classified as a physical hazard according to CLP criteria.

- Supplemental Hazard

EUH066 Repeated exposure may cause skin dryness or cracking.

- Precautionary Statements

Prevention:
P243Take precautionary measures against static discharge.
Response:
P301+ P310 IF SWALLOWED: Immediately call a POISON CENTRE/doctor.
Disposal:
P40 Store locked up
Disposal:
P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national

- Other Hazards

The substance does not fulfil all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered PBT or vPvB. May form flammable/explosive vapour-air mixture.
This material is a static accumulator. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Chemical name	CAS-No. EC-No. Registration Number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008	Concentration [%]
Distillates (petroleum), hydrotreated light	64742-47-8	Xn; R65-R66	Asp. Tox. 1; H304 EUH066	100

4. FIRST-AID MEASURES

- General Advice

DO NOT DELAY.
Keep victim calm. Obtain medical treatment immediately.

- If Inhalation

Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additionaltreatment

- In case of Skin Contact

Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
If persistent irritation occurs, obtain medical attention.

- In case of Eye Contact

Flush eye with copious quantities of water.
If persistent irritation occurs, obtain medical attention

- If Swallowed

  If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

- Most Important Symptoms and Effects, Both Acute and Delay

  Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever.

- Protection of first-aiders

  When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

- Notes to physician

  Potential for chemical pneumonitis.
  Call a doctor or poison control centre for guidance.

5. FIRE-FIGHTING MEASURES

- Suitable Extinguishing Media

  Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

- Unsuitable Extinguishing Media

  Do not use water in a jet.

- Specific hazards during fire fighting

  Clear fire area of all non-emergency personnel.
  Hazardous combustion products may include:
  A complex mixture of airborne solid and liquid particulates and gases (smoke).
  Carbon monoxide. Unidentified organic and inorganic compounds.
  Flammable vapours may be present even at temperatures below the flash point.
  The vapour is heavier than air, spreads along the ground and distant ignition is possible.
  Will float and can be reignited on surface water.

- Specific extinguishing methods

  Standard procedure for chemical fires.

Keep adjacent containers cool by spraying with water.

- Special protective equipment for firefighters

  Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

6. ACCIDENTAL RELEASE MEASURE

- Personal Precautions, Protective Equipment and Emergency Procedures

  Observe all relevant local and international regulations.
  Notify authorities if any exposure to the public or the environment occurs or is likely to occur.
  Local authorities should be advised if significant spillages cannot be contained.

  Avoid contact with skin, eyes and clothing.
  Isolate hazard area and deny entry to unnecessary or unprotected personnel.
  Do not breathe fumes, vapour.
  Do not operate electrical equipment.

- Environmental Precautions

  Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.
  Monitor area with combustible gas indicator.

- Methods And Materials For Containment and Cleaning Up

  For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely Remove contaminated soil and dispose of safely.

  For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

  Ventilate contaminated area thoroughly. If contamination of site occurs, remediation may require specialist advice.

- Reference to other sections

  For guidance on selection of personal protective equipment, see Chapter 8 of this Safety Data Sheet.

For guidance on disposal of spilled material, see Chapter 13 of this Safety Data Sheet

7. HANDLING AND STORAGE

- General Precautions

  Avoid breathing of or direct contact with material. Only use in well-ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment, see Chapter 8 of this Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Ensure that all local regulations regarding handling and storage facilities are followed.

- Advice On Safe Handling

  Avoid inhaling vapour and/or mists.
  Avoid contact with skin, eyes and clothing.
  Extinguish any naked flames. Do not smoke. Remove ignition sources.
  Avoid sparks.
  Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.
  Bulk storage tanks should be diked (bunded).
  When using do not eat or drink

  The vapour is heavier than air, spreads along the ground and distant ignition is possible.

- Avoidance of contact

  Strong oxidising agents

- Product Transfer

  Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation.
  Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/s until fill pipe submerged to twice its diameter, then ≤ 7 m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.

Storage

- Conditions for safe storage

  Refer to section 15 for any additional specific legislation covering the packaging and storage of this product

- Other Data

  Storage Temperature: Ambient.

  Bulk storage tanks should be diked (bunded).

Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions.
Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products, which are not harmful or toxic to man or, to the environment.
Electrostatic charges will be generated during pumping.
Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.
The vapours in the headspace of the storage vessel may lie in the flammable/explosive range and hence may be flammable.

- Packing Material

  Suitable material: For containers, or container linings use mild steel, stainless steel. For container paints, use epoxy paint, zinc silicate paint Unsuitable material: Avoid prolonged contact with natural, butyl or nitrile rubbers.

- Container Advice

  Do not cut, drill, grind, weld or perform similar operations on or near containers.

- Specific Use(s)

  Not applicable

  See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity). IEC/TS 60079-32-1: Electrostatic hazards, guidance

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
RCP Aliphatic dearom. solvents 200 - 250	Not Assigned	TWA	1.200 mg/m3	OEL based on European Hydrocarbon Solvents Producers (CEFIC-HSPA) methodology.

- Biological occupational exposure limits

  No biological limit allocated

- Monitoring Methods

  Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some

substances, biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory. Examples of sources of recommended exposure measurement methods are given below or contact the supplier.
Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods. http://www.cdc.gov/niosh/ Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/ Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances, http://www.hse.gov.uk/ Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany. http://www.dguv.de/inhalt/index.jsp L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

- Engineering Measures

  The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.

  Appropriate measures include:
  Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended.

  Firewater monitors and deluge systems are recommended.
  Eyewashes and showers for emergency use.
  Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

  General Information:
  Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

  Practice good housekeeping.
  Define procedures for safe handling and maintenance of controls. Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
  Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or subsequent recycle.

- Personal Protective Equipment

  Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

- Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level, which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers.
Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
If air-filtering respirators are suitable for conditions of use:
Select a filter suitable for organic gases and vapours [Type A boiling point >65°C (149°F)].

- Hand Protection

  Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer-term protection: Nitrile rubber gloves. Incidental contact/Splash protection: PVC or neoprene rubber gloves. For continuous contact, we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

- Eye Protection

  If material is handled such that it could be splashed into eyes, protective eyewear is recommended.

- Skin and body protection

  Skin protection is not required under normal conditions of use. For prolonged or repeated exposures use impervious clothing over parts of the body subject to exposure. If repeated and/or prolonged skin exposure to the substance Is likely, then wear suitable gloves tested to relevant Standard, and provide employee skin care programmes.
  Protective clothing approved to EU Standard EN14605
  Wear antistatic and flame retardant clothing, if a local risk

- Thermal Hazard

  Not applicable

- Hygiene Measures

Wash hands before eating, drinking, smoking and using the toilet. Launder contaminated clothing before re-use.
Do not ingest. If swallowed then seek immediate medical assistance

- Environmental Exposure Controls

  Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.
  Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.
  Information on accidental release measures are to be found in section 6.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid
Colour	Colourless
Odour	Paraffinic
Odour Threshold	Data not available
pH	Not applicable
Melting / Freezing Point pour point	< -30 °C / -22 °F
Boiling point and boiling range	Typical 238 - 257 °C / 460 - 495 °F
Flash Point	Typical 105 °C / 221 °F Method: ASTM D-93 / PMCC
Evaporation rate	0,01 Method: ASTM D 3539, nBuAc=1 3.900 Method: DIN 53170, di-ethyl ether=1
Upper Explosion Limits	5,5 %(V)
Lower Explosion Limits	0,5 %(V)
Vapour Pressure	< 4 Pa (20 °C / 68 °F) < 1 Pa (0 °C / 32 °F)
Relative vapour density	Data not available
Relative density	Data not available
Density	Typical 792 kg/m3 (20 °C) Method: ASTM D4052
Solubility (ies)	
Water Solubility	Insoluble
Partition coefficient: n-octanol/water	log Pow: 7 - 8,7
Auto-ignition temperature	232 °C / 450 °F Method: ASTM E-659

	215 °C / 419 °F Method: DIN 51794
Decomposition temperature	Data not available
Viscosity	
Viscosity, dynamic	Data not available
Viscosity, Kinematic	Typical 3,2 mm2/s (25 °C / 77 °F)
Explosive properties	Not classified
Oxidising properties	Data not available
Surface tension	Typical 38 mN/m, 20 °C / 68 °F, ASTM D-971
Conductivity	Low conductivity: < 100 pS/m The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi- conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid
Molecular weight	206 g/mol

10. STABILITY AND REACTIVITY

- Reactivity
  The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
- Chemical Stability
  No hazardous reaction is expected when handled and stored according to provisions Stable under normal conditions of use.
- Possibility of Hazardous Reactions
  Reacts with strong oxidising agents
- Conditions to Avoid
  Avoid heat, sparks, open flames and other ignition sources.
  In certain circumstances product can ignite due to static electricity.
- Incompatible Materials
  Strong oxidising agents
- Hazardous Decomposition Products
  Hazardous decomposition products are not expected to form during normal storage.
  Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be

evolved when this material undergoes combustion or thermal or oxidative degradation.

11. TOXICOLOGICAL INFORMATION

- Basis for Assessment
  Information given is based on product testing, and/or similar products, and/or components.

- Information on likely Route of Exposure
  Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact and accidental ingestion.

- Acute Oral Toxicity
  Low toxicity: LD50 >5.000 mg/kg

- Acute Inhalation Toxicity
  Rat: Exposure time: 4hrs
  Low toxicity by inhalation
  LC50 greater than near-saturated vapour concentration
- Acute Dermal Toxicity
  Low toxicity: LD50 >5.000 mg/kg

- Skin Corrosion/Irritation
  Causes skin irritation. Prolonged repeated contact may cause defatting of the skin, which can lead to dermatitis.
- Serious Eye Damage / Eye Damage
  Not irritating to eye.

- Respiratory or Skin Sensitisation
  Not expected to be a sensitiser.

- Germ Cell Mutagenicity
  Not mutagenic

- Carcinogenicity
  Not expected to be carcinogenic. Tumours produced in animals are not considered relevant to humans

Material	GHS/CLP Carcinogenicity Classification
Distillates (petroleum), hydrotreated light	No carcinogenicity classification.

- Reproductive Toxicity
  Do not expected to be a developmental toxicant. Not expected to impair fertility

- STOT – Single Exposure
  Inhalation of vapours or mists may cause irritation to the respiratory system.

- STOT – Repeated Exposure
  Kidney: caused kidney effects in male rats, which are not considered relevant to humans.

- Aspiration Toxicity
  Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis, which can be fatal

- Further Information
  Classifications by other authorities under varying regulatory frameworks may exist.

12. ECOLOGICAL INFORMATION

Acute Toxicity

• Fish	Practically non toxic: LC/EC/IC50 > 100 mg/l
• Crustacean	Practically non toxic: LC/EC/IC50 > 100 mg/l
• Algae / Aquatic Plants	Practically non toxic: LC/EC/IC50 > 100 mg/l
• Microorganisms	Practically non toxic: LC/EC/IC50 > 100 mg/l

Chronic Toxicity

• Fish	Data not available
• Crustacean	Data not available

- Persistence and degradability
  Biodegradability
  Expected to be readily biodegradable. Oxidises rapidly by photochemical reactions in air.

- Bioaccumulation
  Has the potential to bioaccumulation
  Partition coefficient: n-octanol/water:
  log Pow: 7 - 8,7

- Mobility in Soil
  Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile

- Additional ecological information
  In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.

13. DISPOSAL CONSIDERATIONS

- Waste from residues
  Recover or recycle if possible.
  It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.

Do not dispose into the environment, in drains or in watercourses

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.

Disposal should be in accordance with applicable regional, national and local laws and regulations.
Local regulations may be more stringent than regional or national requirements and must be complied with.

- Contaminated packing

  Drain container thoroughly.
  After draining, vent in a safe place away from sparks and fire.
  Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums.
  Send to drum recover or metal reclaimer.
  Comply with any local recovery or waste disposal regulations.

14. TRANSPORT INFORMATION

IATA –DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

- Transport in bulk according to Annex II of Marpol 73/78 and IBC Code

Pollution category	Annex I
Ship type	Annex or Double hull vessels with carriage of oil certificate
Product name	Kerosene

- Special precautions for user

  Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions, which a user needs to be aware of or needs to comply with in connection with transport.

- Additional Information

  This product may be transported under nitrogen blanketing.
  Nitrogen is an odourless and invisible gas. Exposure to nitrogen-enriched atmospheres displaces available oxygen, which may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined space entry.

15. REGULATORY INFORMATION

- Safety, health and environmental regulations/legislation specific for the substance or mixture. The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

- The components of this product are reported in the following inventories:

AICS	: Listed
DSL	: Listed
IECSC	: Listed
ENCS	: Listed
KECI	: Listed
NZIoC	: Listed
PICCS	: Listed
TCSI	: Listed
TSCA	: Listed

16. OTHER INFORMATION

Full text of R-Phrases	
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.

Full text of H-Statements	
EUH066	Repeated exposure may cause skin dryness or cracking.
H304	May be fatal if swallowed and enters airways.

Full text of other abbreviations	
Asp. Tox.	Aspiration hazard

- Abbreviations and Acronyms
  The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

SDS Regulations

- Training Advice
  Provide adequate information, instruction and training for operators.

- Other Information
  A vertical bar (|) in the left margin indicates an amendment from the previous version.

Due to a change of detail in Section 1, this document has been released as a significant change.

- Source of key data used to compile the Safety Data Sheet
  The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.