

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

<b>Trade Name</b>	MasimoSol A100
<b>Trade Name Code</b>	MAS2006
<b>Product name</b>	MasimoSol A100
<b>Supplier</b>	Masimo Chemicals South Africa (Pty) Ltd Office G9, 10 Oppenheimer Road Amanzimtoti, 4126
<b>Emergency telephone Numbers</b>	+27 (0) 82 430 9754 +27 (0) 83 638 0165

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

<b>Material Formal Name</b>	Solvent naphtha (petroleum), light aromatic
<b>CAS No.</b>	64742-95-6
<b>INDEX No.</b>	649-356-00-4
<b>EINECS No.</b>	265-199-0

### Hazardous Components

Chemical Name	CAS	EINECS	Symbol(s)	R-phrase(s)	Conc.
Benzene	71-43-2	200-753-7	F, T	R45; R46; R11; R36/38; R48/23/24/25; R65	< 0,10 %
Cumene	98-82-8	202-704-5	Xn, N	R10; R37; R51/53; R65	0,00 – 6,00 %
Xylene, Mixed Isomers	1330-20-7	215-535-7	Xn	R10; R20/21; R38	1,00 – 22,00 %
1,3,5-Trimethyl benzene	108-67-8	203-604-4	Xi, N	R10; R37; R51/53	8,00 – 12,00 %
1,2,4-Trimethyl benzene	95-63-6	202-436-9	Xn, N	R10; R20; R36/37/38; R51/53	27,00 – 35,00 %
1,2,3-Trimethyl benzene	526-73-8	208-394-8			3,00 – 10,00 %
n-Propyl benzene	103-65-1	203-132-9	Xn, N	R10; R37; R51/53; R65	4,00 – 6,00 %

### 3. HAZARDS IDENTIFICATION

- Health Hazards : Irritating to respiratory system. Vapours may cause drowsiness and dizziness. May cause moderate irritation to skin. Repeated exposure may cause skin dryness or cracking. Harmful: may cause lung damage if swallowed. Possibility of organ or organ system damage from prolonged exposure; see Chapter 11 for details. Target organ(s): Auditory system.
- Signs and Symptoms : If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. Auditory system effects may include temporary hearing loss and/or ringing in the ears.
- Safety Hazards : Flammable. In use, 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.
- Environmental Hazards : Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
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### 4. FIRST-AID MEASURES

- General Information : Not expected to be a health hazard when used under normal conditions.
- Inhalation : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
- 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.
- Eye Contact : Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.



- Ingestion : 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.
- Advice to Physician : Potential for chemical pneumonitis. Call a doctor or poison control center for guidance.
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## 5. FIRE-FIGHTING MEASURES

Clear fire areas of all non-emergency personnel.

- Specific Hazards : Carbon monoxide may be evolved if incomplete combustion occurs. Will float and can be reignited on surface water. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
- Suitable Extinguishing Media : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Do not discharge extinguishing waters into the aquatic environment.
- Unsuitable Extinguishing Media : Do not use water in a jet.
- Protective Equipment for Firefighters : Wear full protective clothing and self-contained breathing apparatus.
- Firefighters Additional Advice : Keep adjacent containers cool by spraying with water.
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## 6. ACCIDENTIAL RELEASE MEASURES

Observe all relevant local and international regulations,

- Protective measures : Avoid contact with spilled or released material. Immediately remove all contaminated clothing. 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. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire-fighting water) 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.
- Clean up Methods : 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.
- Additional Advice : See Chapter 13 for information on disposal. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.
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## 7. HANDLING AND STORAGE

- General Precautions : Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. On 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.
- Handling : Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Avoid contact with skin, eyes and clothing. 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. Be aware of 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 ( $\leq 1$  m/s until fill pipe submerged to twice its diameter, then  $\leq 7$  m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.
- Storage : 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 head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable. Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat. Bulk storage tanks should be diked (bunded). 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. Storage Temperature: Ambient.



- Product Transfer : Keep containers closed when not in use. Refer to guidance under Handling section.
- Recommended Materials : For containers, or container linings use mild steel, stainless steel. For container paints, use epoxy paint, zinc silicate paint.
- Unsuitable Materials : Avoid prolonged contact with natural, butyl or nitrile rubbers.
- Container Advice : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.
- Additional Information : Ensure that all local regulations regarding handling and storage facilities are followed. 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). CENELEC CLC/TR 50404 (Electrostatics – Code of practice for the avoidance of hazards due to static electricity).

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

### Occupational Exposure Limits

In the absence of occupational exposure standards for this product, it is recommended that the following are adopted.

Material	Source	Type	ppm	mg/m3	Notation
RCP Aromatic solvents 160 – 185	EU HSPA	TWA (8 h)		100 mg/m3	

Biological Exposure Index (BEI)

Material	Determinant	Sampling time	BEI	Reference
Benzene	t,t-Muconic acid in Creatinine in urine	Sampling time: End of shift.	500 $\mu\text{g/g}$	ACGIH BEL (2011)
	S-Phenylmercapturic acid in Creatinine in urine	Sampling time: End of shift.	25 $\mu\text{g/g}$	ACGIH BEL (2011)
	benzene in mixed-exhaled air	Sampling time: Prior to shift.	0,08 ppm	ZA BEI (1995)
	Benzene in End-exhaled air	Sampling time: Prior to shift.	0,12 ppm	ZA BEI (1995)
Xylene, Mixed Isomers	Methylhippuric acids in Creatinine in urine.	Sampling time: End of shift.	1,5 g/g	ACGIH BEL (2011)
	Methylhippuric acids in Urine	Sampling time: Last 4 hours of the shift.	2 mg/min	ZA BEI (1995)

- Additional Information : Wash hands before eating, drinking, smoking and using the toilet.
- Exposure Controls : 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. Eye washes and showers for emergency use.
- 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 suitable, select an appropriate combination of mask and filter. Select a filter suitable for organic gases and vapors [Type A boiling point > 65°C (149°F)] meeting EN14387. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.
- Hand Protection : Longer term protection: Nitrile rubber gloves. Incidental contact/Splash protection: PVC or neoprene rubber gloves  
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 : Chemical splash goggles (chemical monogoggles).
- Protective Clothing : Use protective clothing which is chemical resistant to this material. Safety shoes and boots should also be chemical resistant. Wear antistatic and flame retardant clothing.
- 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. 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/>
- Environmental Exposure Controls : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Colourless. Liquid
Odour	:	Aromatic.
Boiling point	:	150 – 185 °C / 302 – 365 °F
Flash point	:	38 - 50 °C / 100 - 122 °F (IP 170)
Upper / lower Flammability or Explosion limits	:	0,6 - 7 %(V)
Auto-ignition temperature	:	507 °C / 945 °F(ASTM E-659)
Vapour pressure	:	210 - 1.300 Pa at 20 °C / 68 °F
Density	:	Typical 876 kg/m <sup>3</sup> at 15 °C / 59 °F (ASTM D-4052)
Water solubility	:	Insoluble.
Electrical 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.
Volatile organic carbon	:	90 %(EC/1999/13)
Evaporation rate (nBuAc=1)	:	< 1,0 (ASTM D 3539, nBuAc=1)

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## 10. STABILITY AND REACTIVITY

Stability	:	Stable under normal conditions of use.
Conditions to Avoid	:	Avoid heat, sparks, open flames and other ignition sources.
Materials to Avoid	:	Strong oxidizing agents.

Hazardous Decomposition Products	:	Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.
Sensitivity in Static Discharge	:	Yes, in certain circumstances product can ignite due to static electricity.

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## 11. TOXICOLOGICAL INFORMATION

Basis for Assessment	:	Information given is based on product testing, and/or similar products, and/or components.
Acute Oral Toxicity	:	May be harmful if swallowed. LD50 >2000 - <=5000 mg/kg, Rat
Acute Dermal Toxicity	:	Low toxicity: LD50 >2000 mg/kg, Rabbit
Acute Inhalation Toxicity	:	Low toxicity: LC50 greater than near-saturated vapour concentration.
Skin corrosion/irritation	:	Causes mild skin irritation. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.
Serious eye damage/irritation	:	Expected to be non-irritating to eyes.
Respiratory Irritation	:	Repeated inhalation of vapours and mists is expected to cause irritation of the respiratory tract.
Sensitisation	:	Not expected to be a sensitizer.
Repeated Dose Toxicity	:	Auditory system: prolonged and repeated exposures to high concentrations have resulted in hearing loss in rats. Solvent abuse and noise interaction in the work environment may cause hearing loss. (Xylene). Kidney: caused kidney effects in male rats which are not considered relevant to humans.
Germ cell mutagenicity	:	Not mutagenic.
Carcinogenicity	:	Not expected to be carcinogenic. Tumours produced in animals are not considered relevant to humans. (Cumene)

Material	:	Carcinogenicity Classification
Solvent Naphtha (Petroleum), Light Aromatic	:	GHS / CLP: No carcinogenicity classification
1,2,4-Trimethyl benzene	:	GHS / CLP: No carcinogenicity classification
1,3,5-Trimethyl benzene	:	GHS / CLP: No carcinogenicity classification
1,2,3-Trimethyl benzene	:	GHS / CLP: No carcinogenicity classification
Cumene	:	IARC 2B: Possibly carcinogenic to humans.
Cumene	:	GHS / CLP: No carcinogenicity classification
Reproductive and Developmental Toxicity	:	Does not impair fertility. Not a developmental toxicant. Causes foetotoxicity in animals at doses which are maternally toxic.

## 12. ECOLOGICAL INFORMATION

Information given is based on product testing.

### Acute Toxicity

Fish	:	Expected to be toxic: LC/EC/IC50 > 1 - <=10 mg/l
Aquatic crustacea	:	Expected to be toxic: LC/EC/IC50 > 1 - <=10 mg/l
Algae/aquatic plants	:	Expected to be toxic: LC/EC/IC50 > 1 - <=10 mg/l
Microorganisms	:	Expected to be practically non toxic: LC/EC/IC50 > 100 mg/l
Mobility	:	Absorbs to soil and has low mobility. Floats on water.
Persistence/degradability	:	Expected to be readily biodegradable. Oxidises rapidly by photo-chemical reactions in air.
Bioaccumulation	:	Contains components with the potential to bioaccumulate.

### 13. DISPOSAL CONSIDERATIONS

- Material Disposal : 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 water courses. Waste product should not be allowed to contaminate soil or water.
- Container Disposal : 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 recoverer or metal reclaimer.
- Local Legislation : 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 in compliance.

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### 14. TRANSPORT INFORMATION

**ADR**

- Class : 3
- Packing group : III
- Classification code : F1
- Hazard identification no. : 30
- UN number : 1268
- Danger label (primary risk) : 3
- UN Proper shipping name : PETROLEUM DISTILLATES, N.O.S. ()
- Environmental hazards: : Yes

**IMDG**

Identification number : UN 1268  
UN Proper shipping name : PETROLEUM DISTILLATES, N.O.S.  
Technical name : (PETROLEUMNAPHTHA)  
Class / Division : 3  
Packing group : III  
Marine Pollutant : Yes (PETROLEUMNAPHTHA)

**IATA (Country variations may apply)**

UN number : 1268  
UN proper shipping name : Petroleum distillates, n.o.s.  
Class / Division : 3  
Packing group : III

**Additional Information** : **Packaging and Transportation of Dangerous Goods is in compliance with Chapter VIII of the Regulations in terms of the National Road Traffic Act of 1996.**

**This regulation is supported by SABS codes of practice SABS 0229 - Packaging of DG for Road Transport, SABS 0233 - IBC for DG and SABS 0232 Parts 1 & 3 - Emergency Response.**

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**15. REGULATORY INFORMATION**

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

EC Label name : SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC  
EC Classification : Harmful. Dangerous for the environment.  
EC Annex I Number : 649-356-00-4  
EC Symbols : Xn Harmful.  
N Dangerous for the environment.

- EC Risk Phrases : R10 Flammable  
R37 Irritating to respiratory system.  
R65 Harmful: may cause lung damage if swallowed.  
R66 Repeated exposure may cause skin dryness or cracking.  
R67 Vapours may cause drowsiness and dizziness.  
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- EC Safety Phrases : S2 Keep out of the reach of children.  
S23 Do not breathe gas/fumes/vapour/spray.  
S24 Avoid contact with the skin.  
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.  
S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

**Chemical Inventory Status**

- DSL : Listed.  
INV (CN) : Listed.  
TSCA : Listed.  
EINECS : Listed. 265-199-0  
KECI (KR) : Listed. KE-31662  
PICCS (PH) : Listed

National Legislation

- OE\_HP V : Listed.

Other Information

- : In compliance with the Occupational Health and Safety Act 85 of 1993 and satisfying the requirements of Regulation GN1179 being the Hazardous Chemicals Substance Regulation.  
Ambient Air Quality Regulation (New) 94/69/EC (21st ATP).  
The benzene content of this product is less than 0.1%. Nota P applies. Classification and labelling as carcinogen (R45) is not required.

## 15. REGULATORY INFORMATION

**Additional Information** : This material safety data sheet refers to the regulatory requirements for the EU and does not contain any country specific legislation. For further information, contact your local Shell company or agent.

### R-Phrase(s)

R10	Flammable.
R11	Highly flammable.
R20	Harmful by inhalation.
R20/21	Harmful by inhalation and in contact with skin.
R36/37/38	Irritating to eyes, respiratory system and skin.
R36/38	Irritating to eyes and skin.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R45	May cause cancer.
R46	May cause heritable genetic damage.
R48/23/24/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

<b>SDS Version Number</b>	: 3.4
<b>SDS Effective Date</b>	: 11.11.2013
<b>SDS Revisions</b>	: A vertical bar ( ) in the left margin indicates an amendment from the previous version.
<b>SDS Regulations</b>	: The content and format of this safety data sheet is in accordance with Commission Directive 2001/58/EC of 27 July 2001, amending for the second time Commission Directive 91/155/EEC.
<b>Uses and Restrictions</b>	: Industrial Solvent.
<b>SDS Distribution</b>	: The information in this document should be made available to all who may handle the product
<b>Disclaimer</b>	: 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.