

SAFETY DATA SHEET (SDS)

PRODUCT NAME: DIFFUSION PUMP OIL - SANTOVAC 5

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: Santovac 5 Diffusion Pump Oil.
Other means of identification: None known.
Item numbers: H11401001, H11401002, H11401003.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified use: Analytical Chemistry, Lubricant.
Uses advised against: No data available.

1.3 Details of the supplier of the safety data sheet.

UK contact details

Edwards, Innovation Drive, Burgess Hill, West Sussex,
RH15 9TW, United Kingdom

General enquiries
Tel: +44 (0)8459 212223
Email: info@edwardsvacuum.com

US contact details

Edwards, 6416 Inducon Drive West, Sanborn,
New York, 14132, USA

General enquiries
Toll Free: 1-800-848-9800

1.4 Emergency telephone number

Chemtrec: 1-800-424-9300.

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS classification: Substance.
Classification according to
Regulation (EC) No. 1272/2008: Not classified as hazardous.
Classification according to
Directive 1999/45/EC: Not classified as hazardous.

2.2 Label elements

Hazard pictograms: Not applicable.
Signal words: Not applicable.
Hazard statements: Not applicable.
Precautionary statements: Not applicable.

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2.3 Other hazards

PBT criteria: This substance is not considered a PBT.

vPvB criteria: No data available.

Other hazards which do not result in a classification: None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Ingredient	CAS No	Hazard class*	Risk phrase / Hazard Statements*
1,3-bis (3-phenoxyphenoxy) benzene	2455-71-2	Not applicable	Not applicable

* Hazard class, Risk phrase and Hazard Statements. These columns are only completed for ingredients which are classified as hazardous under EU Directive No 1272/2008 (as amended) and are present in sufficient concentration to make the overall substance hazardous. In all other situations, the column will be completed as "Not applicable".

Full text for the declared risk phrases and hazards statements is given in Section 16.

3.2 Mixtures

Not applicable.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

Eyes: Rinse thoroughly with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do so. Seek medical attention if symptoms persist.

Skin: Wash contaminated skin with plenty of soap and water, remove contaminated clothing and shoes. Seek medical attention if symptoms occur.

Ingestion/Oral: Thoroughly rinse out mouth with plenty of water. Provide the affected person with 1-2 glasses of water or milk. Never give anything by mouth to an unconscious person. Do not induce vomiting unless directed to do so by medical personnel. Seek medical attention if symptoms occur.

Inhalation: Remove affected person to fresh air. If breathing problems occur, a qualified individual should administer Oxygen or artificial respiration as indicated. Seek immediate medical attention.

General advice: None.

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4.2 Most important symptoms and effect, both acute and delayed

Potential acute health effects:

Eyes: None known.

Skin: None known.

Ingestion / Oral: None known.

Inhalation: None known.

Over-exposure symptoms:

Eyes: No data available.

Skin: No data available.

Ingestion / Oral: No data available.

Inhalation: No data available.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Fire and explosion hazard: In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products: In case of fire, thermal decomposition can lead to the release of toxic and corrosive gases including Carbon Dioxide and Carbon Monoxide.

5.3 Advice for fire-fighters

Special precautions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

Special protective equipment for fire-fighters: Fire-fighters should wear Self-Contained Breathing Apparatus (SCBA) with full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European Standard EN 469 will provide a basic level of protection for chemical incidents.

For Flammability Properties - refer to Section 9.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate non-essential staff, or those not equipped with individual personal protective equipment. Turn leaking containers leakside up to prevent the escape of the product. Do not touch or walk through spilled material; spilt product constitutes a slip hazard. Avoid contact with skin and eyes. Put on appropriate personal protective equipment (refer to Section 8).

For emergency responders: Ensure adequate ventilation. Keep away from open flames and hot surfaces. If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

6.2 Environmental precautions:

Contain spill before washing area to prevent slip hazard. Prevent product from entering drains, sewers and watercourses. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Put on the necessary personal protective equipment; refer to Section 8. Exercise caution; the area of the spill may be slippery. Stop the leak if it is safe to do so.

If water soluble, dilute with water and mop up. Alternatively, or if water-insoluble absorb material onto vermiculite, dry sand, earth or similar inert absorbent.

Place spilled material into covered container for disposal. Use a suitable cleaning solution to clean up any remaining product. Dispose of according to applicable local, state and federal regulations. Do not flush into surface water or sanitary sewer system.

6.4 Reference to other sections

Refer to Section 8 for information on personal protective equipment.

Refer to Section 13 for information on disposal considerations.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure personal protective equipment is used whenever handling the product, refer to Section 8. Avoid eating and drinking in areas where the product is used. Practice good hygiene. Wash hands after use and prior to consuming food and drink. Remove contaminated clothing and personal protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in the original container protected from direct sunlight in a cool and well-ventilated area away from incompatible materials (refer to Section 10) and food and drink. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. Keep containers tightly closed when not in use. Carefully reseal opened containers and keep them upright to prevent leakage.

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7.3 Specific end use(s)

No special precautions required.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Substance	ACGIH - TLV	OSHA - PEL	Occupational Exposure Limits EH40 (UK)
Not applicable	Not applicable	Not applicable	Not applicable

8.2 Exposure controls

Appropriate engineering controls: No special ventilation is required. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures:

Eye/Face Protection: Wear safety glasses with side shields, or other safety eye-wear complying with an approved standard, to avoid exposure to liquid splashes, mists or vapours.

Hand/Skin Protection: Wear suitable protective clothing such as impermeable gloves (chemical, oil and solvent resistant), overalls/coveralls and safety shoes appropriate to the risk at the specific workplace.

Respiratory Protection: Use a personal air-purifying or air-fed respirator and approved filter that conforms to local and national standards when potentially exposed to hazardous decomposition products. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hygiene Measures: Practice good hygiene. Wash face, hands and any exposed skin thoroughly after handling the product and before eating, smoking and using the lavatory and at the end of the working period. Remove all soiled and contaminated clothing and launder before reuse.

Other/General Protection: None.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Light yellow oily liquid	Melting point / freezing point	No data available	°C / °F
Odour	Slight phenolic	Initial boiling point and boiling range	476 / 889	°C / °F
Odour threshold	No data available	Flash point	288 / 550 (Cleveland)	°C / °F
pH	7	Upper/lower flammability or explosive limits	No data available	°C / °F
Evaporation rate	No data available	Vapour pressure	No data available	hPa
Flammability (solid, gas)	Not applicable	Vapour density	15.5	g/cm ³
Solubility(ies)	Insoluble in water, easily soluble in acetone	Relative density	1.195 - 1.201	g/cm ³
Partition coefficient: n-octanol/water	No data available	Auto-ignition temperature	613 / 1135	°C / °F
Explosive properties	No data available	Decomposition temperature	> 425 / 797	°C / °F
Oxidising properties	No data available	Viscosity	No data available	cSt

9.2 Other information

None.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

No data available.

10.5 Incompatible materials

Oxidising materials.

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10.6 Hazardous decomposition products

Under normal conditions of use, hazardous decomposition products should not be produced.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:	No data available.
Irritation:	No data available.
Corrosivity:	No data available.
Sensitisation:	No data available.
Repeat dose toxicity:	No data available.
Carcinogenicity:	No data available.
Mutagenicity:	No data available.
Specific Target Organ Toxicity (STOT) - single exposure	No data available.
STOT - repeated exposure	No data available.
Aspiration hazard	No data available.
Toxicity for reproduction:	No data available.

Information on likely routes of exposure

No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Eye Effects:	No data available.
Skin Effects:	No data available.
Ingestion/Oral Effects:	No data available.
Inhalation Effects:	No data available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

No data available.

Other information

No data available.

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SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available.

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

PBT: This substance is not considered a PBT.

vPvB: No data available.

12.6 Other adverse effects

No known significant effects or critical hazards.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: Avoid/minimise the generation of waste product wherever possible. Disposal of the product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. The product and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Packaging: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Empty containers or liners may retain some product residue. Avoid dispersal of split material and run-off and contact with soil, waterways, drains and sewers.

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SECTION 14. TRANSPORT INFORMATION

14.1 UN number

ADR/RID	IMDG	IATA	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable

14.2 UN proper shipping name

ADR/RID	IMDG	IATA	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable

14.3 Transport hazard class

ADR/RID	IMDG	IATA	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable

14.4 Packing group

ADR/RID	IMDG	IATA	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable

14.5 Environmental hazards

ADR/RID	IMDG	IATA	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable

14.6 Special precautions for user

ADR/RID	IMDG	IATA	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code

No data available.

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SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environment regulations/legislation specific for the substance or mixture

European

This product has been classified in accordance with EU Regulation No 1907/2006 (REACH) on the Classification, Labelling and Packaging of Substances and Mixtures.

Classified as dangerous to supply: No.

German Federal Water Management Act: WGK Appendix 3.

United States

Materials contained in this product are listed on the U.S. Toxic Substances Control Act (TSCA).

SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION:

This product does not contain toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 and 40 CFR Part 372.

California Proposition 65: This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

Canadian

WHMIS Classification: No data available.

Ingredients in this product are included in the Canadian DSL.

15.2 Chemical safety assessment

No data available.

SECTION 16. OTHER INFORMATION

This SDS is compiled in accordance with ANSI Z400.1, Regulation (EC) No 1907/2006 (as amended by Regulation No 453/2010) concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

16.1 Full text of abbreviated statements and phrases

Not applicable.

16.2 NFPA / HMIS hazard codes

NFPA Hazard codes		HMIS Hazard codes		Rating System
Health	No data available	Health	No data available	0 = No Hazard
Flammability	No data available	Flammability	No data available	1 = Slight Hazard
Instability	No data available	Reactivity	No data available	2 = Moderate Hazard
				3 = Serious Hazard
				4 = Severe Hazard

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16.3 Sources of information for this data sheet

- Agilent Technologies "Diffusion Pump Oil - Monsanto Santovac 5" European Safety Data Sheet.
Revision Date: 16th September 2014.
- Agilent Technologies "Diffusion Pump Oil - Monsanto Santovac 5" German Safety Data Sheet.
Revision Date: 16th September 2014.
- Agilent Technologies "Diffusion Pump Oil - Monsanto Santovac 5" North American Safety Data Sheet.
Revision Date: 16th September 2014.

16.4 Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; **ADR** - European Agreement concerning the International Carriage of Dangerous Goods by Road; **ANSI** - American National Standards Institute; **CAS No.** - Chemical Abstracts Service number; **Chemtrec** - Chemical Transportation Emergency Centre (US); **CLV** - Ceiling Limit Value; **DSL** - Domestic Substances List; **EH40 (UK)** - HSE Guidance Note EH40 Occupational Exposure Limits; **EPCRA** - Emergency Planning and Community Right-to-Know Act; **EU** European Union; **GHS** - Globally Harmonized System of Classification and Labelling of Chemicals; **HMIS** - Hazardous Material Information Service; **IATA** - International carriage of dangerous goods by air; **IBC** - International Bulk Chemical; **IMDG** - International carriage of dangerous goods by sea; **LC** - Lethal Concentration; **LD** - Lethal Dose; **MARPOL 73/78** - International Convention for the Prevention of Pollution from Ships, 1973 as modified by the protocol of 1978; **NFPA** - National Fire Protection Association; **OEL** - Occupational Exposure Limit; **OSHA** - Occupational Safety and Health Administration; **PBT** - Persistent, Bioaccumulative, Toxic chemical; **PEL** - Permissible Exposure Limit; **REACH** - Registration, Evaluation, Authorisation and Restriction of Chemicals; **RID** - International carriage of dangerous goods by rail; **SARA (Title III)** - Superfund Amendments and Reauthorization Act; **SARA 313** - Superfund Amendments and Reauthorization Act, Section 313; **SDS** - Safety Data Sheet; **STEL** - Short Term Exposure Limit, 15 minute reference period; **STOT** - Specific Target Organ Toxicity; **SCBA** - Self-Contained Breathing Apparatus; **TLV** - Threshold Limit Value; **TSCA** - Toxic Substances Control Act Public Law 94-469; **TWA** - Time Weighted Average, 8 hour reference period; **US DOT** - US Department of Transportation; **vPvB** - Very Persistent, Very Bioaccumulative chemical; **WHMIS** - Workplace Hazardous Materials Information System.

16.5 Revisions:

April 2015 - Initial release.

January 2016 - Contact details updated. Revision date not changed to preserve 2-yearly SDS review date.

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