

## SAFETY DATA SHEET (SDS)

**PRODUCT NAME : OIL - EDWARDS 704/705**

### 1. Identification of the Substance/Mixture and of the Company/Undertaking

#### 1.1 Product identifier

Product name: Edwards 704 Oil, Edwards 705 Oil  
Other means of identification: None  
Item numbers: Edwards 704 Oil: H024-00-060, H024-00-061, H024-00-062  
Edwards 705 Oil: H024-00-070, H024-00-071, H024-00-072

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

Diffusion pump oil in vacuum systems.

#### 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

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

GHS classification: Mixture.  
Classification according to  
Regulation (EC) No. 1272/2008: Not available.  
Classification according to  
Directive 1999/45/EC: Not available.

#### 2.2 Label elements according to European Directive 1999/45/EC as amended

Hazard pictograms: Not available.  
R-phrases: R36/37/38 - Irritating to eyes, respiratory system and skin.  
S-phrases: S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

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### 2.3 Other hazards

PBT criteria: Not available.

vPvB criteria: Not available.

Other hazards which do not result in a classification: Not available.

## 3. Composition/Information on Ingredients

### 3.1 Substances

Not applicable.

### 3.2 Mixtures

The following information is for Edwards 704 Oil only.

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase / Hazard Statements*
Tetramethyltetraphenyltrisiloxane	>40	3982-82-9	Not applicable	Not applicable
Tetraphenyldimethyldisiloxane	>20	807-28-3	Not applicable	Not applicable
Trimethyltriphenylcyclotrisiloxane	>20	546-45-2	Not applicable	Not applicable
Pentaphenyltrimethyltrisiloxane	<5	3390-61-2	Not applicable	Not applicable

The following information is for Edwards 705 Oil only.

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase / Hazard Statements*
Pentaphenyltrimethyltrisiloxane	>95	3390-61-2	Not applicable	Not applicable
Tetraphenyldimethylsiloxane	<5	807-28-3	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.

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### 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. Seek medical attention if symptoms persist.
Skin:	Wash off with soap and plenty of water. Seek medical attention if symptoms persist.
Ingestion/Oral:	If swallowed, give plenty of water to drink and seek medical assistance. DO NOT give anything to drink to an unconscious person. Do not induce vomiting.
Inhalation:	Remove to fresh air. If not breathing, give artificial respiration. Seek immediate medical attention.
General advice:	None.

#### 4.2 Most important symptoms and effect, both acute and delayed

Potential acute health effects:

Eyes:	Serious eye irritation.
Skin:	Irritation.
Ingestion / Oral:	Not available.
Inhalation:	Irritation of the respiratory system.
Over-exposure symptoms:	
Eyes:	Not available.
Skin:	Not available.
Ingestion / Oral:	Not available.
Inhalation:	Not available.

#### 4.3 Indication of any immediate medical attention and special treatment needed

Not available.

### 5. Fire Fighting Measures

#### 5.1 Extinguishing media

This product is not flammable, is non-combustible and inhibits the spread of flame.

Suitable extinguishing media:	Dry powder, foam, and Carbon Dioxide (CO <sub>2</sub> ). Fine water mist may be used to cool exposed containers and the surrounding area.
Unsuitable extinguishing media:	None known.

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### 5.2 Special hazards arising from the substance or mixture

Fire and explosion hazard: None known.  
Hazardous combustion products Silica oxides, carbon oxides and formaldehyde vapours.

### 5.3 Advice for fire-fighters

Special precautions for fire-fighters: Keep containers cool with fine water mist until well after the fire is out.  
Special protective equipment for fire-fighters: Firefighters should wear appropriate protective equipment and Self-Contained Breathing Apparatus (SCBA) with a full face-piece operated in positive pressure mode.

For Flammability Properties - see Section 9.

## 6. Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Put on appropriate personal protective equipment and evacuate personnel to safe areas. Avoid contact with eyes and skin.  
For emergency responders: Not available.

### 6.2 Environmental precautions

Stop the leak if it is safe/possible to do so. Use dykes or bunding to prevent spreading. Avoid contaminating sewers, streams, rivers and other water courses with spilled product. Notify the appropriate authorities if significant contamination occurs.

### 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 area may be slippery. Extinguish all ignition sources and evacuate the area. 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.

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### 7. Handling and Storage

#### 7.1 Precautions for safe handling

Ensure Personal Protective Equipment is used whenever handling the product, see Section 8. Avoid eating, drinking and smoking in areas where the product is used. Practice good hygiene. Wash hands after use and prior to consuming food and drink.

If the contents are exposed, avoid contact with eyes and skin. Provide general ventilation when handling. If necessary provide mechanical exhaust. Avoid prolonged or repeated exposure.

#### 7.2 Conditions for safe storage, including any incompatibilities

DO NOT store together with food. Store in original, sealed containers protected from direct sunlight in a dry, cool, well ventilated area away from oxidising agents and sources of ignition.

#### 7.3 Specific end use(s)

Not available.

### 8. Exposure Controls/Personal Protection

#### 8.1 Control parameters

Ingredient	ACGIH - TLV	OSHA - PEL	Occupational Exposure Limits EH40 (UK)
None identified	Not applicable	Not applicable	Not applicable

#### 8.2 Exposure controls

Appropriate engineering controls: Provide general ventilation.

Individual protection measures:

Eye/Face Protection: Safety glasses with side shields.

Hand/Skin Protection: Wear suitable protective clothing such as gloves and overalls/coveralls appropriate to the risk at the specific workplace.

Respiratory Protection: None.

Hygiene Measures: Practice good hygiene. Wash face, hands and any exposed skin thoroughly after handling. Immediately remove all soiled and contaminated clothing. Do not eat, drink or smoke while handling the product.

Other/General Protection: The precautions identified above are applicable at room temperature. Use at elevated temperatures may require additional skin and respiratory protection which must be determined on a case-by-case basis.

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### 9. Physical and Chemical Properties

#### 9.1 Information on basic physical and chemical properties

The following information is for Edwards 704 Oil only.

Appearance	Clear, colourless liquid	Melting point / freezing point	Not available	°C / °F
Odour	None	Initial boiling point and boiling range	Not available	°C / °F
Odour threshold	Not applicable	Flash point	> 210 / 410	°C / °F
pH	Not available	Upper/lower flammability or explosive limits	Not available	°C / °F
Evaporation rate	Not available	Vapour pressure	Not available	mbar
Flammability (solid, gas)	Not available	Vapour density	Not available	g/cm <sup>3</sup>
Solubility(ies)	Not available	Relative density	1.07 @ 25 °C	g/cm <sup>3</sup>
Partition coefficient: n-octanol/water	Not available	Auto-ignition temperature	Not available	°C / °F
Explosive properties	Not available	Decomposition temperature	150 / 302	°C / °F
Oxidising properties	Not available	Viscosity	38 @ 25 °C	cSt

The following information is for Edwards 705 Oil only.

Appearance	Clear, colourless liquid	Melting point / freezing point	Not available	°C / °F
Odour	None	Initial boiling point and boiling range	Not available	°C / °F
Odour threshold	Not applicable	Flash point	> 240 / 464	°C / °F
pH	Not available	Upper/lower flammability or explosive limits	Not available	°C / °F
Evaporation rate	Not available	Vapour pressure	Not available	mbar
Flammability (solid, gas)	Not available	Vapour density	Not available	g/cm <sup>3</sup>
Solubility(ies)	Not available	Relative density	1.09 @ 25 °C	g/cm <sup>3</sup>
Partition coefficient: n-octanol/water	Not available	Auto-ignition temperature	Not available	°C / °F
Explosive properties	Not available	Decomposition temperature	150 / 302	°C / °F
Oxidising properties	Not available	Viscosity	185 @ 25 °C	cSt

#### 9.2 Other information

Not applicable.

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### 10. Stability and Reactivity

#### 10.1 Reactivity

Not available.

#### 10.2 Chemical stability

Stable under normal conditions of use.

#### 10.3 Possibility of hazardous reactions

Not available.

#### 10.4 Conditions to avoid

None identified.

#### 10.5 Incompatible materials

Strong oxidising agents.

#### 10.6 Hazardous decomposition products

Thermal decomposition may evolve Silica, Carbon Oxides and incompletely burned Carbon compounds. Heating above 150 °C / 302 °F in the presence of air may form Formaldehyde vapours.

### 11. Toxicological Information

#### 11.1 Information on toxicological effects

Acute toxicity: Not available.

Irritation: Not available.

Corrosivity: Not available.

Sensitisation: Not available.

Repeat dose toxicity: Not available.

Carcinogenicity: Not available.

Mutagenicity: Not available.

Specific Target Organ Toxicity (STOT) - single exposure Not available.

STOT - repeated exposure Not available.

Aspiration hazard Not available.

Toxicity for reproduction: Not available.

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### Information on likely routes of exposure

Not available.

### Symptoms related to the physical, chemical and toxicological characteristics

Eye Effects: Causes serious eye irritation.  
Skin Effects: Causes skin irritation.  
Ingestion/Oral Effects: None known.  
Inhalation Effects: Decomposition vapours may cause respiratory irritation.

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

Not available.

### Other information

Not available.

## 12. Ecological Information

### 12.1 Toxicity

Not available.

### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

Not available.

### 12.5 Results of PBT and vPvB assessment

PBT: Not available.  
vPvB: Not available.

### 12.6 Other adverse effects

Not available.



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### 13. Disposal Considerations

#### 13.1 Waste treatment methods

Product: Dispose of the product in compliance with all applicable local and national regulations.

Packaging: Dispose of the packaging in compliance with all applicable local and national regulations.

### 14. Transport Information

#### 14.1 UN number

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

#### 14.2 UN proper shipping name

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

#### 14.3 Transport hazard class

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

#### 14.4 Packing group

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

#### 14.5 Environmental hazards

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

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### 14.6 Special precautions for user

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

Not applicable.

## 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: Water contaminating class - Not available.

#### United States

Materials contained in this product are 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: Not available.

Ingredients in this product are included in the Canadian DSL.

### 15.2 Chemical safety assessment

Not available.

## 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

R-phrase(s): R36/37/38 - Irritating to eyes, respiratory system and skin.

S-phrase(s): S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

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### 16.2 NFPA / HMIS hazard codes

NFPA Hazard codes		HMIS Hazard codes		Rating System
Health	Not available	Health	Not available	0 = No Hazard
Flammability	Not available	Flammability	Not available	1 = Slight Hazard
Instability	Not available	Reactivity	Not available	2 = Moderate Hazard
				3 = Serious Hazard
				4 = Severe Hazard

### 16.3 Sources of information for this data sheet

- GBR Technology Ltd CVC 4 Diffusion Pump Oil Material Safety Data Sheet; Issue Date: January 2014.
- GBR Technology Ltd CVC 5 Diffusion Pump Oil Material Safety Data Sheet; Issue Date: January 2014.

### 16.4 Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; **ADN** - European agreement concerning the international carriage of dangerous goods by inland waterways **ADR** - European Agreement concerning the International Carriage of Dangerous Goods by Road; **ATE** - Acute Toxicity Estimate; **CAS No.** - Chemical Abstracts Service number; **CEN** - European Committee for Standardization; **CVD** - Chemical vapour deposition; **EC No.** - EINECS and ELINCS Number (see also EINECS and ELINCS); **EC<sub>50</sub>** - Median effective concentration; **ECHA** - European Chemicals Agency; **EINECS** - European Inventory of Existing Commercial Substances; **ELINCS** - European List of Notified Chemical Substances; **IATA** - International carriage of dangerous goods by air; **IMDG** - International carriage of dangerous goods by sea; **LC<sub>50</sub>** - Median lethal concentration; **LD<sub>50</sub>** - Median lethal dose; **NIOSH** - National Institute for Occupational Safety and Health (US); **OECD** - Organisation for Economic Co-operation and Development; **OEL** - Occupational exposure limit; **PBT** - Persistent, bioaccumulative, toxic chemical; **PEL** - Permissible exposure limit; **RID** - International carriage of dangerous goods by rail; **STEL** - Short term exposure limit, 15 minute reference period; **STOT** - Specific target organ toxicity; **TLV** - Threshold limit value; **TWA** - Time weighted average, 8 hour reference period; **vPvB** - Very persistent, very bioaccumulative chemical

### 16.5 Revisions:

- December 2013 - Data Sheet updated to conform to Regulation (EC) No 1907/2006 (as amended by Regulation No 453/2010) and GHS.
- March 2014 - Data Sheet updated to reflect latest supplier safety information and current regulatory information.
- January 2016 - Contact details updated. Revision date not changed to preserve 2-yearly SDS review date.

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