

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DIFFUSION PUMP FLUIDS - DC702/704EU/705

1. Product and Company Identification

Product name: DC702, DC704EU, DC705
Synonyms: Silicone 702 Diffusion Pump Fluid, Silicone 704EU Diffusion Pump Fluid, Silicone 705 Diffusion Pump Fluid
Item Numbers: DC702: H024-00-007, H024-00-038, H112-03-029
DC704EU: H024-00-011, H024-00-043, H112-01-040, H112-01-041, H112-01-045
DC705: H024-00-027, H112-02-023

European Contact Details

Edwards, Manor Royal, Crawley
West Sussex, RH10 9LW, England
E-mail: info@edwardsvacuum.com

General enquiries

UK : +44 (0)1293 528844
France : +(33) 1 47 98 24 01
Germany : +(49) 6420-82-410
Italy : +(39) 0248-4471

US Contact Details

Edwards, Three Highwood Drive, Suite 3-10E,
Highwood Office Park, Tewksbury, MA 01876

General enquiries

+(1) 978-658-5410
Toll Free: 1-800-848-9800

24 h Emergency telephone number:

Chemtrec: 1-800-424-9300

2. Hazards Identification

EMERGENCY OVERVIEW

This material when properly handled according to good working and hygienic practices is not dangerous to human health and the environment.

The product may emit formaldehyde at temperatures above 150 °C/302 °F.

For short and long term exposure effects see Section 11 Toxicological data.

Eye Effects: May cause temporary discomfort.
Skin Effects: No adverse effects are normally expected.
Ingestion/Oral Effects: No adverse effects are normally expected.
Inhalation Effects: No adverse effects are normally expected. Inhalation of formaldehyde (which can be emitted at high temperatures) is harmful and irritating to the respiratory system.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DIFFUSION PUMP FLUIDS - DC702/704EU/705

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

3. Composition/Information on Ingredients

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase*
Dimethyl, phenylmethyl siloxane, trimethyl-terminated	96 (DC702)	68037-71-8	Not applicable	R52, R53
Tetraphenyldimethyldisiloxane	4 (DC702) < 2.5 (DC704EU) < 1 (DC705)	807-28-3		R53

*Hazard class & Risk phrase. 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".

4. First Aid Measures

Eyes:	If irritation arises, flush with water for 15 minutes. If irritation persists, seek medical attention.
Skin:	If irritation arises, wash with water and non-abrasive soap.
Ingestion/Oral:	No first aid should be needed. If discomfort arises, seek medical attention.
Inhalation:	No first aid should be needed. If overcome by fumes produced at elevated temperatures, remove to fresh air. If breathing problems occur, a qualified individual should administer oxygen or artificial respiration as indicated. Seek immediate medical attention.
Other Information:	Treat symptomatically.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DIFFUSION PUMP FLUIDS - DC702/704EU/705

5. Fire Fighting Measures

- Extinguishing Media: Carbon dioxide, foam, dry powder or fine water spray. Water can be used to cool fire exposed containers.
- Fire and Explosion Hazard: No unusual hazards known. If heated in air above 150 °C/302 °F, the product may emit formaldehyde vapours.
- Special Protective Equipment for Fire Fighters: In confined spaces or for large fires, fire fighters should wear a self-contained breathing apparatus (SCBA) which meets appropriate standards operated in positive pressure mode, and full turnout gear. Wear skin protection adequate to protect from thermal decomposition products.

For Flammability Properties - see Section 9.

6. Accidental Release Measures

Use personal protective equipment recommended in Section 8. Prevent material from spreading and entering drains or watercourses by using sand, earth or other appropriate barriers. Clean up spilt material with suitable equipment (e.g. cloth, mop, absorbent) and dispose of saturated absorbent or cleaning materials appropriately. Store recovered material in suitable container. Clean the area since the product, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents.

7. Handling and Storage

- Handling: No special measures required. Avoid eye contact and handle in a well-ventilated area.
- Storage: No special measures required. Store away from oxidizing agents.

8. Exposure Controls/Personal Protection

Exposure Limits:

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

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DIFFUSION PUMP FLUIDS - DC702/704EU/705

Personal Protection:

Engineering Measures:	General ventilation is required. Ensure adequate ventilation to control vapour exposure within inhalation guidelines if handling at elevated temperatures.
Respiratory Protection:	Not required under normal operating conditions.
Hand/Skin Protection:	Gloves are not required under normal operating conditions.
Eye/Face Protection:	Wear safety glasses.
Hygiene Measures:	Practice good workplace hygiene. Do not eat or smoke when handling. Wash hands after handling and before eating.
Other/General Protection:	Use at elevated temperature or aerosol/spray applications may require added precautions. For further information, refer to the guidance documentation in www.SEHSC.com , or contact the supplier (Dow Corning).

9. Physical and Chemical Properties

DC702

Appearance and Odour	White/pale yellow odourless liquid	Boiling point	>300 / 572	°C/°F
pH (as supplied)	No data available	Freezing Point	No data available	°C/°F
Solubility in Water	< 0.1%	Auto Ignition	No data available	°C/°F
Volatile Content by Volume	No data available	Flash Point	380 / 716 (Closed Cup)	°C/°F
Specific Gravity	1.09 (approximately)			
Vapour Pressure (mbar)	No data available	Vapour Pressure (Torr)	No data available	

DC704EU

Appearance and Odour	Clear/pale yellow odourless liquid	Boiling point	>300 / 572	°C/°F
pH (as supplied)	No data available	Freezing Point	No data available	°C/°F
Solubility in Water	< 0.1%	Auto Ignition	No data available	°C/°F
Volatile Content by Volume	No data available	Flash Point	> 101 / 213 (Closed Cup)	°C/°F
Specific Gravity	1.07 (approximately)			
Vapour Pressure (mbar)	No data available	Vapour Pressure (Torr)	No data available	

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DIFFUSION PUMP FLUIDS - DC702/704EU/705

DC705

Appearance and Odour	Clear/pale yellow odourless liquid	Boiling point	> 273 / 523	°C/°F
pH (as supplied)	No data available	Freezing Point	No data available	°C/°F
Solubility in Water	< 0.1%	Auto Ignition	No data available	°C/°F
Volatile Content by Volume	No data available	Flash Point	> 101 / 213 (Closed Cup)	°C/°F
Specific Gravity	1.097 (approximately)			
Vapour Pressure (mbar)	No data available	Vapour Pressure (Torr)	No data available	

10. Stability and Reactivity

Stability: Stable under normal conditions of use.

Material/Conditions to Avoid: Strong oxidising agents.

Hazardous Decomposition: Very high heat conditions may evolve the following decomposition products: Silica, Carbon oxides and traces of incompletely burned carbon compounds. If heated in air above 150 °C/302 °F, the product may emit formaldehyde vapours.

Hazardous Polymerisation: No data available.

11. Toxicological Information

For a comprehensive description for the various toxicological (health) effects which may arise if the user comes into contact with the substance or preparation refer to Section 2 Hazards Identification.

Animal data:

LD50 value: > 2000 mg/kg (Rat and Rabbit) (for 704EU only).

LC50 value: No data available.

Carcinogenicity:

No data available.

12. Ecological Information

Environmental fate and distribution:

Low molecular weight volatile siloxanes have very low water solubility and evaporate to air. Low molecular weight volatile siloxanes in air are degraded by reaction with hydroxyl radicals, which is the dominant degradation process for most chemicals in the atmosphere. Low molecular weight volatile siloxanes in soil are removed by several simultaneously occurring processes including volatilisation, hydrolysis, and clay-catalysed degradation.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DIFFUSION PUMP FLUIDS - DC702/704EU/705

Ecotoxicity:

DC702

Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment. Adverse effects have only been observed in closed test systems.
Potential to bioaccumulate.

DC704EU AND DC705

No adverse effects on aquatic organisms.
No potential to bioaccumulate.

Fate and effects in waste water treatment plants:

The siloxanes in this product do not contribute to the BOD. No adverse effects on bacteria are predicted.

13. Disposal Considerations

Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

14. Transport Information

This product is not classified as dangerous under transport regulations.

PARAMETER	EUROPEAN	CANADIAN TDG	UNITED STATES DOT
Proper Shipping Name	Not applicable	Not applicable	Not applicable
Hazard Class	Not applicable	Not applicable	Not applicable
Identification Number	Not applicable	Not applicable	Not applicable
Shipping Label	Not applicable	Not applicable	Not applicable

15. Regulatory Information

European Regulatory Information

This product has been classified in accordance with EU Regulation No 1272/2008 (as amended) on the Classification, Labelling and Packaging of Substances and Mixtures.

Classified as dangerous to supply: No.

Risk Phrases: R52 Harmful to aquatic organisms. (DC702 only).
R53 May cause long-term adverse effects in the aquatic environment.

Safety Phrases: S51 Use only in well ventilated areas.
S61 Avoid release to the environment. Refer to special instructions/
Safety data sheets.

Symbols: None.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DIFFUSION PUMP FLUIDS - DC702/704EU/705

United States Regulatory Information

All 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 Regulatory Information

The material is not subject to WHMIS regulations.

All ingredients in this product are included on the Canadian DSL.

16. Other Information

This MSDS is compiled in accordance with ANSI Z400.1 and Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH).

Sources of information for this data sheet:

- Dow Corning "702 DIFFUSION PUMP FLUID" Product Safety Data Sheet. Version 2.5. Revision date: 15.03.2007.
- Dow Corning "704 DIFFUSION PUMP FLUID" Product Safety Data Sheet. Version 1.4. Revision date: 20.11.2009.
- Dow Corning "705 DIFFUSION PUMP FLUID" Product Safety Data Sheet. Version 1.3. Revision date: 14.04.2006.

Glossary:

ACGIH - American Conference of Governmental Industrial Hygienists; **ANSI** - American National Standards Institute; **BOD** - Biochemical Oxygen Demand; **Canadian TDG** - Canadian Transportation of Dangerous Goods; **CAS** - Chemical Abstracts Service; **CERCLA** - Comprehensive Environmental Response, Compensation, and Liability Act; **Chemtrec** - Chemical Transportation Emergency Center (US); **DSL** - Domestic Substances List; **EH40 (UK)** - HSE Guidance Note EH40 Occupational exposure limits; **EPA** - Environmental Protection Agency; **HMIS** - Hazardous Material Information Service; **LC** - Lethal Concentration; **LD** - Lethal Dose; **NFPA** - National Fire Protection Association; **OSHA** - Occupational Safety and Health Administration, US department of Labour; **PEL** - Permissible exposure limit; **SARA (Title III)** - Superfund Amendments and Reauthorization Act; **SCBA** - Self-Contained Breathing Apparatus; **SEHSC** - Silicones Environmental, Health and Safety Council; **STEL** - Short Term Exposure Limit; **TLV** - Threshold Limit Value; **TSCA** - Toxic Substances Control Act Public Law 94-469; **US DOT** - US Department of Transportation; **WHMIS** - Workplace Hazardous Materials Information System.

Revisions:

October 2010 - Data Sheet updated to reflect the latest regulatory and supplier safety information.

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