

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

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, 301 Ballardvale Street,
Wilmington, MA 01887

General enquiries

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

24 h Emergency telephone number:

Chemtrec: 1-800-424-9300

2. Composition/Information on Ingredients

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase*
Dimethyl, phenylmethyl siloxane, trimethyl-terminated	96 (DC702) 97.5 (DC704EU) 99 (DC705)	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 (67/548/EEC, 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".

3. 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.

MATERIAL SAFETY DATA SHEET

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

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 emitted at high temperatures is harmful and irritating to the respiratory system.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

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

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.

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

MATERIAL SAFETY DATA SHEET

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

6. Accidental Release Measures

Use personal protective equipment recommended in Section 8. Prevent material from spreading and entering drains or watercourses. 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

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: None.

MATERIAL SAFETY DATA SHEET

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

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	500 / 902	°C/°F
Volatile Content by Volume	4%	Flash Point	198 / 388	°C/°F
Specific Gravity	1.09 (approximately)			
Vapour Pressure (mbar)	6.5 x 10 ⁻⁷ @ 20 °C	Vapour Pressure (Torr)	5 x 10 ⁻⁷ @ 68 °F	

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	500 / 902	°C/°F
Volatile Content by Volume	2.5%	Flash Point	> 101 / 213	°C/°F
Specific Gravity	1.07 (approximately)			
Vapour Pressure (mbar)	1.3 x 10 ⁻⁸ @ 20 °C	Vapour Pressure (Torr)	1 x 10 ⁻⁸ @ 68 °F	

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	500 / 902	°C/°F
Volatile Content by Volume	1%	Flash Point	101 / 213	°C/°F
Specific Gravity	1.097 (approximately)			
Vapour Pressure (mbar)	2.6 x 10 ⁻¹⁰ @ 20 °C	Vapour Pressure (Torr)	2 x 10 ⁻¹⁰ @ 68 °F	

MATERIAL SAFETY DATA SHEET

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

10. Stability and Reactivity

Stability: Stable under normal conditions of use.

Material/Conditions to Avoid: Strong oxidising agents.

Hazardous Decomposition: 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 3 Hazards Identification.

Animal data:

LD50 value: No data available.

LC50 value: No data available.

Carcinogenicity:

No known carcinogenic, teratogenic, or mutagenic hazards. Contains no known reproductive toxins or sensitisers.

12. Ecological Information

Persistence, bioaccumulation in water and atmospheric pollution effects are all unknown. There are no significant ecotoxicity effects in water.

Degradability: The material degrades in the environment by chemical and physical processes.

Mobility: The material is insoluble in water.

13. Disposal Considerations

The product can be incinerated in accordance with local and national regulations. The packaging should be disposed of in accordance with regional and/or national regulations. Unused product may be returned for reclamation.

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

MATERIAL SAFETY DATA SHEET

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

15. Regulatory Information

European Regulatory Information

This product has been classified in accordance with the Dangerous Substances Directive (67/548/EEC, as amended) and the Preparations Directive (88/379/EEC, as amended), implemented in the UK as the Chemical (Hazard Information and Packing) Regulations 1994 (CHIP, as amended).

Classified as dangerous to supply : No

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

Safety Phrases : S25 Avoid contact with eyes.
S61 Avoid release to the environment. Refer to special instructions/
Safety data sheets.

Symbols : None

United States Regulatory Information

All ingredients contained in this product are included on the EPA TSCA Chemical Substances Inventory.

EPA SARA Title III chemical listings:

Section 302 Extremely Dangerous Substances: none.

Section 304 CERCLA Hazardous Substances: none.

Section 312 Hazard Class:

Acute: no

Chronic: no

Fire: no

Pressure: no

Reactive: no

Section 313 Toxic Chemicals:

None present or none present in regulated quantities.

Canadian Regulatory Information

The material is not subject to WHMIS regulations.

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

MATERIAL SAFETY DATA SHEET

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

16. Other Information

This MSDS is compiled in accordance with ANSI Z400.1 and the EU Safety Data Sheet Directive 91/155/EEC.

Sources of information for this data sheet:

- Dow Corning "702 DIFFUSION PUMP FLUID" Product Safety Data Sheet. Version 2.4. Revision date : 25.10.2004.
- Dow Corning "704 DIFFUSION PUMP FLUID" Product Safety Data Sheet. Version 1.2. Revision date : 08.07.2004.
- 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; 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); CHIP - Chemical (Hazard Information and Packing); 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; 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:

Nov 2007 - Data Sheet updated to reflect the latest supplier safety information.

Although the information and recommendations in this data sheet are to the best of our knowledge correct, it is recommended that you make your own determination of the material's suitability for your purpose before you use it. The information contained in this data sheet has been reproduced from the manufacturers data; the accuracy of this information is the responsibility of the manufacturer. Edwards accept no responsibility for damage of any nature resulting from the use of, or the reliance upon, this data sheet.