

## 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

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#### General enquiries

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#### US Contact Details

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New York, 14132, USA

#### General enquiries

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. Harmful effects are expected only when thermal decomposition evolves oxides of carbon, silicon dioxide and formaldehyde.

Traces of Benzene may form if the product is heated in air above 149 °C /300 °F.

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

Eye Effects: May cause temporary irritation and discomfort.  
Skin Effects: None under normal conditions of use.  
Ingestion/Oral Effects: None under normal conditions of use.  
Inhalation Effects: None under normal conditions of use. Inhalation of formaldehyde (which can be liberated at high temperatures) is harmful and irritating to the respiratory system.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

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

### 3. Composition/Information on Ingredients

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase*
Dimethyl, phenylmethyl siloxane, trimethyl-terminated	85 - 100 (DC702)	68037-71-8	Not applicable	Not applicable
Tetramethyltetraphenyl trisiloxane	85 - 100 (DC704EU)	3982-82-9	Not applicable	Not applicable
Trimiethylpentaphenyl trisiloxane	85 -100 (DC705)	3390-61-2	Not applicable	Not applicable
Tetraphenyldimethyldisiloxane	3 - 7 (DC702) < / = 2.5 (DC704EU) < 1 (DC705)	807-28-3	Not applicable	R53
Alkyl phenyl siloxane	< / = 2.5 (DC704EU)	6904-66-1	Not applicable	Not applicable
Phenyl methyl siloxane	1 - 5 (DC705)	38421-40-8	Not applicable	Not applicable

\*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:	Flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, seek medical attention.
Skin:	Flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, seek medical attention.
Ingestion/Oral:	None under normal conditions of use. If discomfort or irritation arises, seek medical attention.
Inhalation:	None under normal conditions of use. 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 required. Seek immediate medical attention.
Other Information:	Treat according to person's condition and specifics of exposure.

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### 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: Thermal decomposition of this product during a fire or very high heat conditions may evolve oxides of carbon, silicon dioxide and formaldehyde. Traces of Benzene may form if the product is heated in air above 149 °C /300 °F.

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.

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: Avoid eye contact and handle in a well-ventilated area. When handling in elevated temperatures, ensure adequate ventilation is available to control exposure to thermal decomposition vapours, especially at temperatures above 149 °C /300 °F.

Storage: 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 *

\* Exposure Limits: No components of this product have Workplace Exposure Limits.

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### Personal Protection:

Engineering Measures:	General ventilation is required. When handling in elevated temperatures, ensure adequate ventilation is available to control exposure to thermal decomposition vapours, especially at temperatures above 149 °C /300 °F.
Respiratory Protection:	Not required under normal operating conditions.
Hand/Skin Protection:	None under normal conditions of use.
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 <a href="http://www.SEHSC.com">www.SEHSC.com</a> , or contact the supplier (Dow Corning).

## 9. Physical and Chemical Properties

### DC702

Appearance and Odour	White to light 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	No data available	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 @ 25 °C	Viscosity	45 cSt @ 25 °C	
Vapour Pressure (mbar)	No data available	Vapour Pressure (Torr)	No data available	

### DC704EU

Appearance and Odour	Clear to 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	No data available	Auto Ignition	No data available	°C/°F
Volatile Content by Volume	No data available	Flash Point	> 101 / 214 (Closed Cup)	°C/°F
Specific Gravity	1.065	Viscosity	38 cSt @ 25 °C	
Vapour Pressure (mbar)	No data available	Vapour Pressure (Torr)	No data available	

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### DC705

Appearance and Odour	Clear white to yellow odourless liquid	Boiling point	> 215 / 419	°C/°F
pH (as supplied)	No data available	Freezing Point	No data available	°C/°F
Solubility in Water	No data available	Auto Ignition	No data available	°C/°F
Volatile Content by Volume	No data available	Flash Point	> 101 / 214 (Closed Cup)	°C/°F
Specific Gravity	1.097	Viscosity	180 cSt @ 25 °C	
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:	Thermal decomposition of this product during a fire or very high heat conditions may evolve oxides of carbon, silicon dioxide and formaldehyde.
Hazardous Polymerisation:	Will not occur.

### 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:

##### DC702

LD50 value:	Oral Toxicity (rats): > 20,000 mg/kg
LC50 value:	Inhalation Toxicity (rats): 346 ppm (Test type: Vapour 7 hrs)

##### DC704EU

LD50 value:	Oral Toxicity (rats): > 2,000 mg/kg	Dermal Toxicity (rabbits): > 2,000 mg/kg
LC50 value:	No data available	

##### DC705

LD50 value:	Oral Toxicity (rats): > 2,000 mg/kg	Dermal Toxicity (rabbits): > 2,000 mg/kg
LC50 value:	No data available	

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### Carcinogenicity:

No data available.

### 12. Ecological Information

When the product is used and/or disposed of as indicated, no adverse environmental effects are foreseen.

**Mobility:** No data available.

**Persistence and degradability:** Siloxanes are removed from water by sedimentation or binding to sewage sludge. In soil, siloxanes are degraded.

**Bioaccumulation:** The material has no potential for bioaccumulation.

### Ecotoxicity effects:

Acute Toxicity (DC702 and DC704EU):

- Fishes, *Lepomis macrochirus*, LC50, 96 h, > 1000 mg/l
- Fishes, *Salmo gairdneri*, LC50, 96 h, > 1000 mg/l

### 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.

### RCRA Hazard Class (40 CFR 261):

The following only applies to DC704EU and DC705.

When a decision is made to discard this material, as received, is it classified as a hazardous waste? Yes

TCLP: D018

### 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

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### 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: R53 May cause long-term adverse effects in the aquatic environment. (DC704 only)

Safety Phrases: S51 Use only in well ventilated areas.

Symbols: None.

German Federal Water Management Act: Water contaminating class - WGK 1

#### United States Regulatory Information

All materials contained in this product are listed on or exempted from listing in 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 or exempted from the Canadian DSL.

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### 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" Material Safety Data Sheet, MSDS No 04021537. Version 2.3. Revision date: 12.06.2012.
- Dow Corning "702 DIFFUSION PUMP FLUID" Material Safety Data Sheet, MSDS No 01000128. Version 1.7. Revision date: 12.06.2012.
- Dow Corning "702 DIFFUSION PUMP FLUID" Material Safety Data Sheet. Version 3.1. Revision date: 16.04.2012.
- Dow Corning "704 DIFFUSION PUMP FLUID" Material Safety Data Sheet, MSDS No 01000144. Version 1.6. Revision date: 14.02.2012.
- Dow Corning "704 DIFFUSION PUMP FLUID" Material Safety Data Sheet, MSDS No 01000144. Version 1.7. Revision date: 14.02.2012.
- Dow Corning "704 DIFFUSION PUMP FLUID" Material Safety Data Sheet. Version 1.4. Revision date: 20.11.2009.
- Dow Corning "705 DIFFUSION PUMP FLUID" Material Safety Data Sheet, MSDS No 01000152. Version 2.0. Revision date: 13.01.2012.
- Dow Corning "705 DIFFUSION PUMP FLUID" Material Safety Data Sheet, MSDS No 01000152. Version 2.0. Revision date: 13.01.2012.
- Dow Corning "705 DIFFUSION PUMP FLUID" Material Safety Data Sheet. Version 2.1. Revision date: 20.09.2011.

### 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.

November 2012 - Data Sheet updated to reflect the latest regulatory and supplier safety information.

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