

PRODUCT NAME : GREASE - SILICONE HIGH VACUUM

1. Product and Company Identification

Product Name: Silicone vacuum grease
Synonyms: Dow Corning high vacuum grease
Item Numbers : H024-00-036, H112-51-015

European Contact Details

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2. Composition/Information on Ingredients

| Ingredient | % Weight | CAS No | Hazard class* | Risk phrase* |
|---------------------------------------|----------|-----------|----------------|----------------|
| Silica (amorphous) | 7-13 | 7631-86-9 | Not applicable | Not applicable |
| Polydimethylsiloxane | >60 | 63148629 | Not applicable | Not applicable |
| Dimethyl siloxane (hydroxyterminated) | 7-13 | 70131678 | Not applicable | Not applicable |

*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.

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

Eye Effects: Direct eye contact may cause temporary discomfort with mild redness.
Skin Effects: No significant irritation expected from a single short term exposure.

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Ingestion/Oral Effects: Small amounts transferred to the mouth by the fingers during use should not injure. Swallowing large amounts may cause digestive discomfort.

Inhalation Effects: Extremely low volatility makes inhalation an unlikely hazard in normal use at room temperature.

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: Immediately flush with water.

Skin: No first aid should be needed.

Ingestion/Oral: No first aid should be needed.

Inhalation: No first aid should be needed. If high concentrations of mists or fumes are inhaled, 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, dry powder, foam, fine water spray.

Fire and Explosion Hazard: No known unusual hazards. Hazardous decomposition products: silicon dioxide (silica), carbon monoxide, carbon dioxide and traces of incompletely burned carbon products. The product may emit formaldehyde vapours at temperatures above 150°C/302°F in the presence of air. Direct water stream may cause violent frothing.

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

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6. Accidental Release Measures

Spillage: Use personal protection equipment recommended in Section 8. Prevent material from spreading. Clean up spilt material with a suitable absorbent and dispose of appropriately with regard to laws and regulations relating to material release and disposal. Clean area since silicone materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents.

7. Handling and Storage

Handling: General ventilation is required. Avoid eye contact.
Storage: No special measures required. Store away from oxidising materials.

8. Exposure Controls/Personal Protection

Exposure Limits

| Ingredient | ACGIH - TLV - | OSHA - PEL | Occupational Exposure Limits EH40 (UK) |
|---------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Silica ¹ | 10mg/m ³ (total dust) TWA ² 3mg/m ³ (inhalable dust) ¹ | 15mg/m ³ (total dust) TWA 5mg/m ³ (respirable dust) | 6mg/m ³ (total dust) TWA 3mg/m ³ (respirable dust) |

¹ Free silica dust is only likely to be present as a result of thermal destruction of the grease.

² Value for particulate matter containing no asbestos and < 1% crystalline silica.

Personal Protection:

- Engineering Measures: General ventilation is recommended.
- Respiratory Protection: None required.
- Hand/Skin Protection: No special protection required.
- 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.

9. Physical and Chemical Properties

| | | | | |
|----------------------------|--------------------------------------|------------------------|---------------------------|-------|
| Appearance and Odour | Translucent white grease. Odourless. | Boiling Point | >150/302 | °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 | <5% | Flash Point | 100/212 | °C/°F |
| Specific Gravity | 1.10 @ 25°C/77 °F | | | |
| Vapour Pressure (mbar) | < 10 ⁻⁶ @ 20°C | Vapour Pressure (Torr) | < 10 ⁻⁶ @ 68°F | |

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10. Stability and Reactivity

Stability: Stable.
Material/Conditions to Avoid: Avoid strong oxidising agents.
Hazardous Decomposition: Silicon dioxide (silica), carbon monoxide, carbon dioxide and traces of incompletely burned carbon products. The product may emit formaldehyde vapours at temperatures above 150°C/302°F in the presence of air.

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, etc:

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

12. Ecological Information

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

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

Mobility: the material is insoluble in water.

The material contains no ozone depleting chemicals.

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.

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 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 : Not applicable

Safety Phrases : Not applicable

Symbols : None

United States Regulatory Information

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

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

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

Product is not subject to WHMIS Regulations.

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

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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 Product Safety Data Sheet for Dow Corning High Vacuum Grease. Version 1. Revision date: 14 March, 1994.
- Dow Corning Canada Inc Product Safety Data Sheet for Dow Corning High Vacuum Grease. MSDS 1018817. Revision date: 24 October, 1996.
- Dow Corning Corporation Material Safety Data Sheet for Dow Corning High Vacuum Grease. MSDS 1018817. Revision date: 10 December, 1997.
- National Library of Medicine (NLM) electronic databases (HSDB, RTECS, CHEMID, Toxline).

Glossary : **CAS**, Chemical Abstracts Service; **NFPA**, National Fire Protection Association; **HMIS**, Hazardous Material Information Service; **LD**, Lethal Dose; **LC**, Lethal Concentration; **ACGIH**, American Conference of Governmental Industrial Hygienists; **TLV**, threshold limit value; **OSHA**, Occupational Safety and Health Administration, US department of Labour; **PEL**, Permissible exposure limit; **EH40 (UK)**, HSE Guidance Note EH40 Occupational exposure limits; **PPM**, parts per million; **TWA**, Time-Weighted Average; **STEL**, Short Term Exposure Limit; **Canadian TDG**, Canadian Transportation of Dangerous Goods; **US DOT**, US Department of Transportation.

HSDB, Hazardous Substances Data Bank; **RTECS**, Registry of Toxic Effects of Chemical Substances; **CHEMID**, Chemical Identification; **DSL**, Domestic Substances List ; **TSCA**, Toxic Substances Control Act Public Law 94-469; **CERCLA**, Comprehensive Environmental Response, Compensation and Liability Act; **EPCRA**, Emergency Planning and Community Right-to-Know Act; **CAA**, Clean Air Act; US, **SARA (Title III)**, Superfund Amendments and Reauthorization Act.; **SARA 313**, Superfund Amendments and Reauthorization Act, Section 313; **EHS**, Extremely Hazardous Substance; **WHMIS**, Workplace Hazardous Materials Information System.

Revisions

Typing error, part No changed from H023-00-036 to H024-00-036

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