

# HIWIN G01 SDS

(Safety Data

## Features

1. Excellent wear resistance and extreme pressure resistance under heavy load conditions
2. Low friction in low temperatures
3. Water-resistant
4. Can be applied by means of central lubrication system
5. Suitable for all-electric injection molding machine, die-stamping machines, semi-conductor manufacturing equipment, heavy load actuator, industry machine and forging machine

## Pack sizes



## Basic properties

HIWIN G01		
Consistency enhancer		Polyurea
Color		Light yellow
Basic oil		Mineral
Service temperature range (°C)		-15 to 115
NLGI Grade		1
Viscosity (cst/40°C)		500
Drop point (°C)		>170
4-ball extreme pressure test	Load on boundary lubrication when 900rpm	>1700N
	Load on boundary lubrication when 1770rpm	>1300N
Origin		Germany

## 1. Identification of the substance/mixture and of the company/undertaking

- ◆ **Product details**

**Trade name:** HIWIN G01

**Application of the substance / the preparation:** Grease

**Manufacturer/Supplier:** HIWIN TECHNOLOGIES CORP.

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## 2. Hazards identification

- ◆ **Classification of the substance or mixture**

**Product definition:** Mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Not classified.

**Ingredients of unknown toxicity:**

**Ingredients of unknown ecotoxicity:**

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1%

**Classification according to Directive 1999/45/EC [DPD]**

The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification:** Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

- ◆ **Label elements**

**Hazard pictograms:**

**Signal word:** No signal word.

**Hazard statements:** No known significant effects or critical hazards.

**Precautionary statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazardous ingredients:**

**Supplemental label elements:** Safety data sheet available for professional user on request.

**Special packaging requirements**

**Containers to be fitted with child-resistant fastenings:** Not applicable.

**Tactile warning of danger:** Not applicable.

- ◆ **Other hazards**

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

**Additional warning phrases:** Not available.

### 3. Composition/information on ingredients

**Substance/mixture:** Mixture

**Description:** mineral oil polyurea solid lubricant

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
Polyurea	CAS: 1266545-64-5	<25	R53 <b>See Section 16 for the full text of the R-phrases declared above.</b>	Aquatic Chronic 4, H413 <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

#### Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

Occupational exposure limits, if available, are listed in Section 8.

### 4. First-aid measures

#### ◆ Description of first aid measures

##### **Eye contact:**

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

##### **Inhalation:**

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

##### **Skin contact:**

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

##### **Ingestion:**

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position

comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

**Protection of first-aiders:**

No action shall be taken involving any personal risk or without suitable training.

◆ **Most important symptoms and effects, both acute and delayed**

**Potential acute health effects**

**Eye contact:** No known significant effects or critical hazards.

**Inhalation:** No known significant effects or critical hazards.

**Skin contact:** No known significant effects or critical hazards.

**Ingestion:** No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

**Eye contact:** No specific data.

**Inhalation:** No specific data.

**Skin contact:** No specific data.

**Ingestion:** No specific data.

◆ **Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments:** No specific treatment.

## 5. Fire-fighting measures

◆ **Extinguishing media**

**Suitable extinguishing media:** Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media:** None known.

◆ **Special hazards arising from the substance or mixture**

**Hazards from the substance or mixture:** In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous combustion products:**

Decomposition products may include the following materials:

carbon dioxide.

carbon monoxide.

sulfur oxides.

phosphorus oxides.

metal oxide/oxides.

◆ **Advice for firefighters**

**Special precautions for fire-fighters:**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters:**

Fire-fighters should wear appropriate protective equipment and self-contained breathing

apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## 6. Accidental release measures

### ◆ **Personal precautions, protective equipment and emergency procedures**

#### **For non-emergency personnel:**

No action shall be taken involving any personal risk or without suitable training.

Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering.

Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

#### **For emergency responders:**

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### ◆ **Environmental precautions:**

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### ◆ **Methods and materials for containment and cleaning up**

#### **Small spill:**

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

#### **Large spill:**

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

### ◆ **Reference to other sections**

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

## 7. Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

- ◆ **Precautions for safe handling**

**Protective measures:** Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene:**

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Workers should wash hands and face before eating, drinking and smoking.

Remove contaminated clothing and protective equipment before entering eating areas.

See also Section 8 for additional information on hygiene measures.

- ◆ **Conditions for safe storage, including any incompatibilities:**

Store in accordance with local regulations.

Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink.

Keep container tightly closed and sealed until ready for use.

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Do not store in unlabelled containers.

Use appropriate containment to avoid environmental contamination.

- ◆ **Specific end use(s)**

**Recommendations:** Not available.

**Industrial sector specific solutions:** Not available.

## 8. Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

- ◆ **Control parameters**

**Occupational exposure limits**

No exposure limit value known.

**Recommended monitoring procedures:**

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

**Derived effect levels**

No DELs available.

**Predicted effect concentrations**

No PECs available.

- ◆ **Exposure controls**

**Appropriate engineering controls:**

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

### **Individual protection measures**

#### **Hygiene measures:**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### **Eye/face protection:**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

### **Skin protection**

#### **Hand protection:**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

#### **Other skin protection:**

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

#### **Respiratory protection:**

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

#### **Environmental exposure controls:**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## **9. Physical and chemical properties**

### **◆ Information on basic physical and chemical properties**

#### **Appearance**

**Physical state:** Paste.

**Colour:** Yellow.

**Odour:** Characteristic.

**pH:** Not available.

**Melting point/freezing point:** Not available.

**Initial boiling point and boiling range:** Not available.

**Flash point:** Not applicable.

**Flammability (solid, gas):** Not available.

**Burning time:** Not applicable.

**Burning rate:** Not applicable.

**Upper/lower flammability or explosive limits:** Not available.

**Vapour pressure:** Not available.

**Density:** 0.9g/cm<sup>3</sup> [20°C]

**Bulk Density:** Not available.

**Solubility(ies):** Insoluble in the following materials: cold water and hot water.

**Partition coefficient: n-octanol/water:** Not available.

**Auto-ignition temperature:** Not available.

**Decomposition temperature:** Not available.

**Viscosity:** Not available.

**Explosive properties:** Not available.

**Oxidising properties:** Not available.

- ◆ **Other information:** No additional information

## 10. Stability and reactivity

- ◆ **Reactivity:**

No specific test data related to reactivity available for this product or its ingredients.

- ◆ **Chemical stability:**

The product is stable.

- ◆ **Possibility of hazardous reactions:**

Under normal conditions of storage and use, hazardous reactions will not occur.

- ◆ **Conditions to avoid:**

No specific data.

- ◆ **Incompatible materials:**

No specific data.

- ◆ **Hazardous decomposition products:**

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. Toxicological information

- ◆ **Information on toxicological effects**

Acute toxicity



Product/ingredient name	Result	Species	Dose	Exposure
Residual oils (petroleum), hydrotreated	LD50 Dermal	Rat	>5000 mg/kg	-
Polyurea	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-

**Conclusion/Summary:** Not available.

**Acute toxicity estimates**

Not available.

**Irritation/Corrosion**

**Conclusion/Summary:** Not available.

**Sensitiser**

**Conclusion/Summary:** Not available.

**Mutagenicity**

**Conclusion/Summary:** Not available.

**Carcinogenicity**

**Conclusion/Summary:** Not available.

**Reproductive toxicity**

**Conclusion/Summary:** Not available.

**Teratogenicity**

**Conclusion/Summary:** Not available.

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure:** Not available.

**Potential acute health effects**

**Inhalation:** No known significant effects or critical hazards.

**Ingestion:** No known significant effects or critical hazards.

**Skin contact:** No known significant effects or critical hazards.

**Eye contact:** No known significant effects or critical hazards.

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

**Inhalation:** No specific data.

**Ingestion:** No specific data.

**Skin contact:** No specific data.

**Eye contact:** No specific data.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

**Potential immediate effects:** Not available.

**Potential delayed effects:** Not available.

**Long term exposure**

**Potential immediate effects:** Not available.

**Potential delayed effects:** Not available.

**Potential chronic health effects**

Not available.

**Conclusion/Summary:** Not available.

**General:** No known significant effects or critical hazards.

**Carcinogenicity:** No known significant effects or critical hazards.

**Mutagenicity:** No known significant effects or critical hazards.

**Teratogenicity:** No known significant effects or critical hazards.

**Developmental effects:** No known significant effects or critical hazards.

**Fertility effects:** No known significant effects or critical hazards.

**Other information:** Not available.

**12. Ecological information**

♦ **Toxicity**

<b>Product/ingredient name</b>	<b>Result</b>	<b>Species</b>	<b>Exposure</b>
Residual oils (petroleum),hydrotreated	Acute EC50 >10000 mg/l	Daphnia	48 hours
Polyurea	Acute IC50 >1000 mg/l	Algae	96 hours
	Acute LC50 1000 to 5000 mg/l	Fish	96 hours
	Chronic NOEC >5000 mg/l	Fish	96 hours
	Acute EC50 >100 mg/l	Daphnia	48 hours
	Acute LC50 >100 mg/l	Fish	96 hours

**Conclusion/Summary:** Not available.

♦ **Persistence and degradability**

**Conclusion/Summary:** Not available.

♦ **Bioaccumulative potential**

Not available.

♦ **Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>):** Not available.

**Mobility:** Not available.

- ◆ **Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

- ◆ **Other adverse effects:** No known significant effects or critical hazards.

## 13. Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

- ◆ **Waste treatment methods**

**Product**

**Methods of disposal:**

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

**Hazardous waste:** Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

**Packaging**

**Methods of disposal:**

The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions:**

This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## 14. Transport information

	ADR/RID	IMDG	IATA
<b>UN number</b>	Not regulated.	Not regulated.	Not regulated.
<b>UN proper shipping name</b>	-	-	-
<b>Transport hazard class(es)</b>	-	-	-
<b>Packing group</b>	-	-	-
<b>Environmental hazards</b>	No.	No.	No.

<b>Special precautions for user</b>	Not available.	Not available.	Not available.
<b>Additional information</b>	-	-	-

- ◆ **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:**  
Not available.

## 15. Regulatory information

- ◆ **Safety, health and environmental regulations/legislation specific for the substance or mixture**

**EU Regulation (EC) No. 1907/2006 (REACH)**

**Annex XIV - List of substances subject to authorization**

**Substances of very high concern**

None of the components are listed.

**Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles:** Not applicable.

**Other EU regulations**

**Europe inventory:** Not determined.

**Black List Chemicals:** Not listed

**Priority list Chemicals:** Not listed

**Integrated pollution prevention and control list (IPPC) – Air:** Not listed

**Integrated pollution prevention and control list (IPPC) – Water:** Not listed

**International regulations**

**Chemical Weapons Convention List Schedule I Chemicals:** Not listed

**Chemical Weapons Convention List Schedule II Chemicals:** Not listed

**Chemical Weapons Convention List Schedule III Chemicals:** Not listed

- ◆ **Chemical Safety Assessment:** This product contains substances for which Chemical Safety Assessments are still required.

## 16. Other information

**Abbreviations and acronyms:**

ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement

PNEC = Predicted No Effect Concentration

RRN = REACH Registration Number

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008**

**[CLP/GHS]**

<b>Classification</b>	<b>Justification</b>
Not classified.	

**Full text of abbreviated H statements:**

H413 May cause long lasting harmful effects to aquatic life.

**Full text of classifications [CLP/GHS]:**

Aquatic Chronic 4, H413 AQUATIC TOXICITY (CHRONIC) - Category 4

**Full text of abbreviated R phrases:**

R53- May cause long-term adverse effects in the aquatic environment.

**Full text of classifications [DSD/DPD]:**

Not applicable.

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