1- CHEMICIAL PRODUCT AND COMPANY NAME

Gear Grease SG2
Part # 199450-5

Material Safety Data Sheet

Complies with the OSHA Hazard Communication Standard:
29 CFR 1910 1200

Makita U.S.A., Inc.
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Emergency Contact Information

Telephone Number for Information: MAKITA: (510) 657-9881

Emergency Response:

For Chemical Emergency
Spills, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada 1-800-424-9300

Section 2- Hazards Identification

Classification (Regulation (EC) No. 1272/2008)

Chronic aquatic toxicity:	Category 3

Label elements

Hazard pictograms:	No Hazard symbol required
Signal word:	No signal word

Hazard statements

Physical Hazards:	Not classified as a physical hazard according to CLP criteria.
Health Hazards:	Not classified as a health hazard under CLP criteria.
Environmental Hazard:	H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention:	P273 Avoid release to the environment.
Response:	No precautionary phrases
Storage:	No precautionary phrases
Disposal:	P501 Dispose of contents/container to an approved waste disposal plant.
Sensitizing components:	**Contains triazole derivatives. May Produce an allergic reaction.**

Section 3- Composition/ Information of Ingredients

Chemical nature: A lubricating grease containing highly refined mineral oils and additives.
The highly refined mineral oil contains <3% (w/w) DMSO extract, according to IP346.

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Zinc naphthenate	12001-85-3	Xi-N; R36/R38-R50/53	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	0,25-2,4
Triazole derivative	91273-04-0	C-Xi-N; R34-R43-R51/53 C-N; R34-R43-R51-R53	Skin Corr. 1B; H314 Skin Sens. 1A; H317 Aquatic Chronic 1; H410	0,01 - 0,09

For Explanation of abbreviations see section 16.

Section 4- First Aid Measures

General advice: Not expected to be a health hazard when used under normal conditions.

If inhaled: No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.

In case of skin contact: Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop. Obtain medical attention even in the absence of apparent wounds.

In case of eye contact: Flush eye with copious quantities of water.
If persistent irritation occurs, obtain medical attention.

If swallowed: In general, no treatment is necessary unless large quantities are swallowed, however, get medical advice.

Most important symptoms and effects, both acute and delayed: Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhea.
Local necrosis is evidenced by delayed onset of pain and tissue damage a few hours following injection.

Protection of first aiders:	When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.
Notes to physician:	Treat symptomatically. High pressure injection injuries require prompt surgical intervention and possibly steroid therapy to minimize tissue damage and loss of function. Because entry wounds are small and do not reflect the seriousness of the underlying damage, surgical exploration to determine the extent of involvement may be necessary. Local anesthetics or hot soaks should be avoided because they can contribute to swelling, vasospasm and ischemia. Prompt surgical decompression, debridement and evacuation of foreign material should be performed under general anesthetics and wide exploration is essential.

Section 5- Fire-Fighting Measures

Suitable extinguishing media:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media:	Do not use water in a jet.
Specific hazards during firefighting:	Hazardous combustion products may include: - A complex mixture of airborne solid and liquid particulates and gases (smoke). - Carbon monoxide may be evolved if incomplete combustion occurs. - Unidentified organic and inorganic compounds.
Specific extinguishing methods:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for fire-fighters:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-contained breathing apparatus must be worn when approaching a fire in a confined space. Select fire fighters clothing approved to relevant standards (e.g., Europe: EN469).

Section 6- Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:	Avoid contact with skin and eyes.
Environmental precautions:	Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Methods and materials for containment and cleaning up:	Shovel into suitable clearly marked container for disposal or reclamation in accordance with local regulations.
Additional advice:	For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

Section 7- Handling and Storage

General Precautions:	Use local exhaust ventilation if there is risk of inhalation of vapors, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Advice on safe handling:	Avoid prolonged or repeated contact with skin. Avoid inhaling vapors and/or mists. When handling product in drums, safety footwear should be worn, and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning materials to prevent fires.
Avoidance of contact:	Strong oxidizing agents.
Storage	
Other data:	Keep container tightly closed and in a cool, well-ventilated place. Use properly labeled and closable containers. Store at ambient temperature.
Packaging material:	Suitable material: For containers or container linings, use mild steel or high-density polyethylene. Unsuitable material: PVC.
Container Advice:	Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

Section 8- Exposure Controls and Personal Protection

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Oil mist, mineral	Not Assigned	TWA (Inhalable fraction)	5 mg/m3	US. ACGIH Threshold Limit Values

Biological occupational exposure limits

No Biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples analyzed by an accredited laboratory. Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures:

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.

Appropriate measures include:

- Adequate ventilation to control airborne concentrations.
- Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information:

- Define procedures for safe handling and maintenance of controls.
- Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
- Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g., personal protective equipment, local exhaust ventilation.
- Drain down system prior to equipment break-in or maintenance.
- Retain drain downs in sealed storage pending disposal or subsequent recycle.
- Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking.
- Routinely wash work clothing and protective equipment to remove contaminants.
- Discard contaminated clothing and footwear that cannot be cleaned.
- Practice good housekeeping.

Due to the products semi-solid consistency, generation of mists and dusts is unlikely to occur.

Personal protective equipment

Protective measures

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory protection:

No respiratory protection is ordinarily required under normal conditions of use.
In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
Select a filter suitable for the combination of organic gases and vapors [Type A/Type P boiling point >65°C (149°F)].

Hand protection remarks:

Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g., Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves suitability and durability of a glove is dependent on usage, e.g., frequency and duration of contact, chemical resistance of glove material and dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.
Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable as long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Eye protection:

If material is handled such that it could be splashed into eyes, protective eyewear is recommended.

Skin and body protection:

Skin protection is not ordinarily required beyond standard work clothes. It is good practice to wear chemical resistant gloves.

Thermal hazards:

Not applicable

Environmental exposure controls

General advice:

Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to wastewater. Wastewater should be treated in a municipal or industrial wastewater treatment plant before discharge to surface water.
Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapors.

Section 9- Physical and Chemical Properties

Appearance:	Semi-solid at room temperature.
Color:	Light brown
Odor:	Slight hydrocarbon
Odor threshold:	Data not available
pH:	Not applicable
Drop point:	180 °C / 356 °F Method: IP 396
Initial boiling point and boiling range:	Data not available
Flash point:	Not applicable
Evaporation rate:	Data not available
Flammability (solid, gas):	Data not available
Upper explosion limit:	Typical 10% (V)
Lower explosion limit:	Typical 1 % (V)
Vapor pressure:	< 0,5 Pa (20 °C / 68 °F) estimated value(s)
Relative vapor density:	> 1 estimated value(s)
Relative density:	0,900 (15 °C/ 59 °F)
Density:	900 kg/m3 (15,0 °C / 59,0 °F) Method: Unspecified
Solubility(ies)	
Water solubility:	Negligible
Solubility in other solvents:	Data not available
Partition coefficient: n-octanol/water:	Pow: >6 (based on information on similar products)
Auto-ignition temperature:	>350 °C/ 608 °F

Viscosity	
Viscosity, dynamic:	Data not available
Viscosity, kinematic:	Not applicable
Explosive properties:	Not classified
Oxidizing properties:	Data not available
Conductivity:	This material is not expected to be a static accumulator.
Decomposition temperature:	Data not available

Section 10- Stability and Reactivity

Reactivity:	The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability:	Stable
Possibility of hazardous Reactions:	Reacts with strong oxidizing agents.
Conditions to avoid:	Extremes of temperature and direct sunlight.
Incompatible materials:	Strong oxidizing agents
Hazardous decomposition products:	Hazardous decomposition products are not expected to form during normal storage.

Section 11- Toxicological Information

Basis for assessment:	Information given is based on data on the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
Information on likely routes of exposure:	Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.
Acute toxicity	
Product:	

Acute oral toxicity: LD50 rat: > 5.000 mg/kg

Remarks: Expected to be low toxicity

Acute inhalation toxicity: Remarks: Not considered to be an inhalation hazard under normal conditions of use.

Acute dermal toxicity: LD50 Rabbit: > 5.000 mg/kg

Remarks: Expected to be low toxicity

Skin corrosion/irritation

Product:

Remarks: Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Serious eye damage/eye irritation

Product:

Remarks: Expected to be slightly irritating.

Respiratory or skin sensitization

Product:

Remarks: Not expected to be a skin sensitizer.

Components:

Triazole derivative:

Remarks: May cause an allergic skin reaction in sensitive individuals.

Germ cell mutagenicity

Product:

Remarks: Not considered a mutagenic hazard.

Carcinogenicity

Product:

Remarks: Not expected to be carcinogenic.

Remarks: Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC).

Material	GHS/CLP Carcinogenicity Classification
Highly refined mineral oil	No carcinogenicity classification.

Reproductive toxicity

Product:

Remarks: Not expected to impair fertility.

Not expected to be a development toxicant.

STOT- single exposure

Product:

Remarks: Not expected to be a hazard.

STOT- repeated exposure

Product:

Remarks: Not expected to be a hazard.

Aspiration toxicity

Product:

Not considered an aspiration hazard.

Further information

Product:

Remarks: Used grease may contain harmful impurities that have accumulated during use. The concentration of such harmful impurities will depend on use, and they may present risks to health and the environment on disposal. All used grease should be handled with caution and skin contact avoided as far as possible.

Remarks: High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.

Remarks: Slightly irritating to respiratory system.

Section 12- Ecological Information

Basis for assessment:	Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s). (LL/EL/IL50 expressed as the nominal amount of product required to prepare aqueous test extract).

Ecotoxicity

Product:

Toxicity to fish (Acute toxicity):	Remarks: Expected to be harmful: LL/EL/IL50 10-100 mg/l
Toxicity to crustacean (Acute toxicity):	Remarks: Expected to be harmful: LL/EL/IL50 10-100 mg/l
Toxicity to algae/aquatic plants (Acute toxicity):	Remarks: Expected to be harmful: LL/EL/IL50 10-100 mg/l

Toxicity to fish (chronic toxicity):	Remarks: Data not available
Toxicity to crustacean (chronic toxicity):	Remarks: Data not available
Toxicity to microorganisms (acute toxicity):	Remarks: Data not available

Components:

Zinc naphthenate: **M-factor:**	1
Triazole derivative: **M-factor:**	1

Persistence and degradability

Product:	
Biodegradability:	Remarks: Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable but contains components that may persist in the environment.
Product:	
Bioaccumulation:	Remarks: Contains components with the potential to bioaccumulate.
Partition coefficient: n-octanol/water:	Pow: > 6 Remarks: (based on information on similar products).

Mobility in soil

Product:	
Mobility	Remarks: Semi-solid under most environmental conditions. If it enters soil, it will adsorb to soil particles and will not be mobile. Remarks: Floats on water

Other adverse effects

No data available

Product:	
Additional ecological information:	Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation or global warming potential. Poorly soluble mixture may cause physical fouling of aquatic organisms. Mineral oil is not expected to cause chronic effects to aquatic organisms at concentrations less than 1 mg/l.

Section 13- Disposal Considerations

Disposal methods

Waste from residues:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or ground water or be disposed of into the environment. Waste, spills or used product is dangerous waste.
Contaminated packaging:	Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand. Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local legislation Remarks:	Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Section 14- Transport Information

International Regulations

ADR

Not regulated as a dangerous good

RID

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code

Pollution category:	Not applicable
Ship type:	Not applicable
Product name:	Not applicable
Special precautions:	Not applicable

Special precautions for user

Remarks:	Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.
Additional Information:	MARPOL Annex 1 rules apply for bulk shipments by sea.

Section 15- Regulatory Information

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

Other international regulations

The components of this product are reported in the following inventories:

EINECS:	All components listed or polymer exempt
TSCA:	All components listed

Section 16- Other information

Full text of R-Phrases

R34	Causes burns
R36/38	Irritating to eyes and skin
R43	May cause sensitization by skin contact.
R50/53	Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R51	Toxic to aquatic organisms
R51/R53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R53	May cause long-term adverse effects in the aquatic environment.

Full text of H-Statements

H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Eye irrit.	Eye irritation
Skin Corr.	Skin corrosion
Skin irrit.	Skin irritation
Skin sens.	Skin sensitization
Abbreviations and Acronyms:	The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g., scientific dictionaries) and/or websites.

SDS Regulation:	Regulation 1907/2006/EC
Further information	
Other information:	A vertical bar (l) in the left margin indicates an amendment from the previous version.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.