MOMENTIVE

Technical Data Sheet

YG6111

YG6111

Description

YG6111 and YG6260 are metal oxide filled silicone oil compounds designed to provide superior thermal conductivity. This combination of high purity fillers and silicones results in a smooth, homogeneous, high temperature dielectric compound. They have virtually no oil separation or high temperature weight loss. YG6111 is a general purpose grade with good workability. YG6260 has good paintability.

Key Features and Benefits

- Superior thermal conductivity
- Extremely low oil bleed
- Little swelling effect on silicone elastomers

Typical Physical Properties

Typical Properties	YG6111	YG6260
Appearance	White	White-Opaque
Specific Gravity (25C)	2.45	2.50
Unworked Penetration	200 to 350	300 ± 10
Thermal Conductivity (W/mK)	0.63	0.84
(cal/cm.sec.C)	($1.5x10^{-3}$)	($2x10^{-3}$)
Temperature Range C	-55 to 200	-50 to 150
(F)	(-67 to 392)	(-58 to 302)
Typical Electrical Properties		
Dielectric Constant 60Hz (25C)	5.4	5.0
Dissipation Factor 60Hz (25C)	0.005	0.005
Dielectric Strength (kV/0.25mm) (25C)	5	---
Volume Resistivity ohm-cm (25C)	$2x10^{14}$	$2x10^{14}$
Heating Weight Loss(150 C 24H) %	0.4	0.2
Oil Bleed (150 C 24 h) %	0.50	0.2
Dielectric Loss (50Hz)	0.006	0.005

Potential Applications

Momentive Performance Materials thermally conductive compounds can be used in almost any industry, from electronics to automotive to aircraft to the semiconductor industries. YG6111 and YG6260 can be used in semi-conductor devices, and thermal joints where it maintains a positive seal which improves the heat transfer. This means that your electrical and electronic components may perform their function at much lower temperatures, thereby potentially increasing their efficiency and prolonging their life. Other applications include TV anode cap seal, power transistor, diodes, rectifiers, radiator fans, heat generating parts and heat exchangers.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

The warranty period is 6 months from date of shipment from Momentive Performance Materials if stored in the original unopened container at temperatures between 5C and 30C (41F and 86F).

Customers should review the latest Material Safety Data Sheet (MSDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, and any special storage conditions required for safety. MSDS are available at www.momentive.com or, upon request, from any Momentive Performance Materials (MPM) representative. **For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center**. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

From automotive to healthcare, from electronics to construction, products from Momentive Performance Materials Inc. are practically everywhere you look. We are a global leader in silicones and advanced materials with a 70+ year heritage of innovation and being first to market – with performance applications that improve everyday life. By knowing our customers' needs and creating custom technology platforms for them, we provide science based solutions to help customers increase performance, solve product development issues and engineer better manufacturing processes.

Contact Information

For product prices, availability, or order placement, contact our customer service by visiting momentive.com/ContactSilicones.

For literature and technical assistance, visit our website at: www.momentive.com

DISCLAIMER

The information provided herein was believed by Momentive Performance Materials Inc. (collectively with its subsidiaries, "Momentive") to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product, and to determine the suitability of the product for user's intended application or use. All products supplied by Momentive are subject to Momentive's standard terms and conditions of sale. **MOMENTIVE MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY MOMENTIVE**, except that the product shall conform to Momentive's specifications. Nothing contained herein constitutes an offer for the sale of any product.

YG 6260 - can (1l-1kg)
Thermal Conductive Grease

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufactured By: **GE Toshiba Silicones Co., Ltd, Ohta**

Ohta-shi 3738505
Revised: 05/16/2006
Preparer: PRODUCT STEWARDSHIP COMPLIANCE AND STANDARDS
CHEMTREC 1-800-424-9300

Chemical Family/Use: Grease
Formula: Mixture

HMIS

Flammability:	0	Reactivity:	0	Health:	1	Prot. Equipm.:

NFPA

Flammability:	0	Reactivity:	0	Health:	1	Special Haz.:

2. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION	CAS REG NO.	WGT. %
A. HAZARDOUS		
B. NON-HAZARDOUS		
Zinc oxide	1314-13-2	60 - 90 %
Methyl Decyl polysiloxanes	68607-71-6	10 - 30 %
Treated fumed silica	68583-49-3	1 - 5 %

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION! May cause eye irritation. May generate formaldehyde at temperatures greater than 150 C (300 F). See Section 10 of MSDS for details. Attention: Not for injection into humans.

Form: solid Color: white Odor: slight

POTENTIAL HEALTH EFFECTS

INGESTION

None known.

SKIN

Plant experience has shown that skin hazard is not applicable in this form.

INHALATION
None known.

EYES
May cause mild eye irritation.

MEDICAL CONDITIONS AGGRAVATED
None known.

SUBCHRONIC (TARGET ORGAN)
None known.

CHRONIC EFFECTS / CARCINOGENICITY
This product or one of its ingredients present at 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA.

ROUTES OF EXPOSURE
None known.

OTHER
This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 F (150 C) and above in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. An MSDS for formaldehyde is available from GE Advanced Materials - Silicones.

4. FIRST AID MEASURES

INGESTION
Do not induce vomiting. If victim is conscious, give 1-3 glasses of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if irritation persists.

SKIN
Wash off with soap and water.

INHALATION
Move to fresh air. Seek medical attention if symptoms of exposure develop.

EYES
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

NOTE TO PHYSICIAN
None known.

5. FIRE-FIGHTING MEASURES

FLASH POINT: > 100 °C; 212 °F

METHOD:
IGNITION TEMPERATURE:
FLAMMABLE LIMITS IN AIR - LOWER (%): no data available
FLAMMABLE LIMITS IN AIR - UPPER (%): no data available

SENSITIVITY TO MECHANICAL IMPACT: No

SENSITIVITY TO STATIC DISCHARGE
Sensitivity to static discharge is not expected.

EXTINGUISHING MEDIA
All standard extinguishing agents are suitable.

SPECIAL FIRE FIGHTING PROCEDURES
Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED
Wipe, scrape or soak up in an inert material and put in a container for disposal. Wear proper protective equipment as specified in the protective equipment section.

7. HANDLING AND STORAGE

STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Curing releases vapors which may be harmful. Use only in area provided with appropriate exhaust ventilation. Avoid contact with eyes. Keep away from children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS
Eyewash stations;

RESPIRATORY PROTECTION
If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29 CFR 1910.134).

PROTECTIVE GLOVES
Cloth gloves.

EYE AND FACE PROTECTION
Safety glasses

OTHER PROTECTIVE EQUIPMENT
Wear suitable protective clothing and eye/face protection.

Exposure Guidelines

Component	CAS RN	Source	Value

Absence of values indicates none found

PEL - OSHA Permissible Exposure Limit; TLV - ACGIH Threshold Limit Value; TWA - Time Weighted Average

OSHA revoked the Final Rule Limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338).

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT - C & F:	no data available
VAPOR PRESSURE (20 C) (MM HG):	no data available
VAPOR DENSITY (AIR=1):	no data available
FREEZING POINT:	no data available
MELTING POINT:	no data available
PHYSICAL STATE:	solid
ODOR:	slight
COLOR:	white
EVAPORATION RATE (BUTYL ACETATE=1):	not applicable
SPECIFIC GRAVITY (WATER=1):	ca. 2.5
DENSITY (KG/M3):	ca. 2,500 KG/M3
ACID / ALKALINITY (MEQ/G):	no data available
pH:	no data available
VOLATILE ORGANIC CONTENT (VOL):	
SOLUBILITY IN WATER (20 C):	insoluble
SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):	no data available
VOC EXCL. H2O & EXEMPTS (G/L):	

10. STABILITY AND REACTIVITY

STABILITY
Stable

HAZARDOUS POLYMERIZATION
Will not occur

HAZARDOUS THERMAL DECOMPOSITION / COMBUSTION PRODUCTS
Carbon dioxide (CO2); Carbon monoxide; oxides of zinc; Silicon dioxide.

INCOMPATIBILITY (MATERIALS TO AVOID)
None known.

CONDITIONS TO AVOID
None known.

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL
Remarks: Unknown

ACUTE DERMAL
Remarks: Unknown

ACUTE INHALATION
Remarks: Unknown

OTHER

SENSITIZATION
no data available

SKIN IRRITATION
no data available

EYE IRRITATION
no data available

MUTAGENICITY
Unknown

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGY
no data available

CHEMICAL FATE

DISTRIBUTION

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

Further Information: This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

15. REGULATORY INFORMATION

Inventories

Canada DSL Inventory	y (positive listing)
Japan Inventory of Existing & New Chemical Substances (ENCS)	y (positive listing)
China Inventory of Existing Chemical Substances	y (positive listing)
Australia Inventory of Chemical Substances (AICS)	y (positive listing)
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	y (positive listing)
TSCA list	y (positive listing)
EU list of existing chemical substances	y (positive listing)
Canada NDSL Inventory	n (Negative listing)
Korea Existing Chemicals Inventory (KECI)	y (positive listing)

For inventories that are marked as quantity restricted or special cases, please contact GE.

US Regulatory Information

CERCLA

PRODUCT COMPOSITION	Chemical	CERCLA Reportable Quantity

CLEAN AIR ACT

CLEAN WATER ACT

SARA SECTION 302

SARA (311,312) HAZARD CLASS
No SARA Hazards

SARA (313) CHEMICALS

Canadian Regulatory Information

WHMIS HAZARD CLASS
NON-CONTROLLED

Other

SCHDLE B/HTSUS:

ECCN:

CALIFORNIA PROPOSITION 65
This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductiv e defects.

16. OTHER INFORMATION

OTHER
These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate., C = ceiling limit NEGL = negligible EST = estimated NF = none found NA = not applicable UNKN = unknown NE = none established REC = recommended ND = none determined V = recommended by vendor SKN = skin TS = trade secret R = recommended MST = mist NT = not tested STEL = short term exposure limit ppm = parts per million ppb = parts per billion By-product= reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2).