

MATERIAL SAFETY DATA SHEET**Alfa International Corp.****GR-104****MSDS Number:** 605**MSDS Date:** 8/17/06**Revision Date:** 06/09/2010**Section 1: PRODUCT INFORMATION & Company identification**

PRODUCT NAME: Thermal Conductive Silicone
 PRODUCT CODE: GR104
 CHEMICAL NAME: Organopolysiloxane Mixture
 CHEMICAL FAMILY: Silicone Grease
 FORMULA: Preparation/Mixture
 HAZARD RATINGS: Health Hazard: 2
 (0/4, NONE [EXTREME]) Fire Hazard: 0
 Reactivity: 0

ALFA INTERNATIONAL CORP
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 24-HOUR EMERGENCY ASSISTANCE
Chemtec: (800) 424-9300

Section 2: COMPOSITION

PRODUCT COMPOSITION	APPROXIMATE %	ACGIH TLV	OSHA PEL	NIOSH REL	CAS #	EINECS/ELINCS	DANGER SYMBOL	RISK PHRASE	DSL CANADA
Zinc Oxide	>70	2mg/m3	15mg/m3	5mg/m3	1314-13-2	215-222-5	N	50/53	Y
Siloxanes & Silicones	<30	-	-	-	-	Y Polymer Exemption	-	-	Y

Section 3: HAZARD IDENTIFICATION**PERMISSIBLE EXPOSURE LEVEL:**

See Composition

HAZARD CLASSIFICATION:

Not Classified as Hazardous according to IMO and DOT

FIRE & EXPLOSION:

Not considered combustible or flammable, but will burn if involved in a fire. Emits

toxic fumes when burned.

EFFECTS OF OVEREXPOSURE:**INHALATION:**

Avoid breathing spray mist or vapors in container headspace

EYES:

Irritation to eyes may occur

SKIN:

Irritation to skin may occur

INGESTION:

Harmful or fatal if swallowed

CHRONIC EFFECTS OF OVEREXPOSURE:

None

APPEARANCE:

Slight Odor

OTHER:

None

COMPONENT	HEALTH (Blue)	FLAMMABILITY (Red)	REACTIVITY (Yellow)	SPECIAL (White)
GR-104	2	0	0	-

Section 4: FIRST AID MEASURES

EYES CONTACT: Immediately flush eyes with water for at least 15 minutes. Get medical attention if irritation persists.
SKIN CONTACT: Wash with mild soap and water for at least 15 minutes, apply a mild cream. Remove contaminated clothing.
INHALATION: Get fresh air. If breathing stops, provide CPR (Cardio Pulmonary Resuscitation). If necessary call physician or get immediate attention.
INGESTION: Call Poison Center immediately. If swallowed do not induce vomiting, provide plenty of water to drink. Never give anything to an unconscious person.

Notes to Physician:

Corrosive. May cause stricture. If lavage is performed, suggest endotracheal and/or esophagosopic control. If burn is present, treat as any thermal burn after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

Section 5: FIRE FIGHTING MEASURES

FLAMMABILITY CLASS: IIIB Flash Point: NONE F PMCC LEL: N/A UEL: N/A
EXTINGUISHING MEDIA: Foam, dry chemical, carbon dioxide, water spray or fog.
SPECIAL FIRE FIGHTING PROCEDURES: Avoid breathing smoke. Use air supplied rescue equipment for enclosed area. Water tends to spread burning liquid if large amounts used. Wear appropriate protective equipment, including NIOSH- approved respirator. Work from the upwind side of fire. Use suitable extinguishing agents. If possible, move container to a safe area. If not, protect it from destruction then cool container and surrounding area by spraying it with water. If ignited and cannot be extinguished easily, evacuate area and call for emergency.

UNUSUAL FIRE & EXPLOSION HAZARDS: Use cold spray to cool down fire/heat exposed containers to keep them from rupturing and emit toxic fumes under fire condition.

Section 6: ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**

Wear proper protective equipment and evacuate or warn people to leave the area. Eliminate all sources of ignition and ventilate area. Contain the spill or leak. Clean up spill or leak with a rag or cardboard. Place in a waste container for later removal. Avoid spilled Material with any contact with acids, bases, or oxidizing material to prevent generation of hydrogen gas. Avoid spill or leak from entering sewers or watercourses. Small quantities may be absorbed into an appropriate absorbent. For large spills, see sections IV, VIII, and IX.

WASTE DISPOSAL METHOD:

Material is designated as hazardous waste until all solvents and vapors have evaporated. Dispose of in accordance with local, state, and federal regulations. Incineration is recommended. Dried adhesive may be disposed of as ordinary waste.

Section 7: HANDLING & STORAGE**PRECAUTIONS IN HANDLING & STORAGE:**

Keep container tightly closed when not in use.
 Store upright in a dry and cool location.
 Wear proper protective equipment and avoid contact with skin, eyes, or clothing.
 Wash hands immediately after handling this material.
 Follow all applicable local regulations for handling and storage
 Utilize chemical segregation.

PRECAUTIONS ON EMPTY CONTAINER:

Do not reuse container. This container may be hazardous when empty.
 Do not puncture or cut on or near container.
 Empty container away from heat, sparks, flames or other potential sources of ignition.

SPECIFIC USES:

This product is intended to aid in the thermal management of electronic devices.

Section 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

RESPIRATORY PROTECTION: If vapors exceed TLV use self contained organic mask NIOSH approved.
VENTILATION: Sufficient to keep workroom concentration below TLV. Good general, Mechanical ventilation is recommended.
PROTECTIVE GLOVES: Chemical resistant gloves; Plastic film or rubber gloves.
EYE PROTECTION: Safety glasses face shield, or Chemical goggles.
SKIN PROTECTION: Suitable protective clothing to prevent skin contact
OTHER PROTECTION EQUIPMENT: Safety shower, eyewash stations, and hand washing equipment, should be available in work area. Barrier cream for sensitive skin should also be available .
EXPOSURE LIMITS: Refer back to section 2

SPECIAL VENTILATION: Not required
 WORK.HYGIENCE PRACTICES: Avoid contact with eyes and wash hands and face after handling

Section 9: PHYSICAL & CHEMICAL PROPERTIES

BOILING RANGE:	Not Applicable
SPECIFIC GRAVITY (@25 °C):	2.39 [Water= 1.0]
WEIGHT LB/GAL:	19.98
VAPOR PRESSURE (@ 25°C):	Negligible
VAPOR DENSITY (AIR=1):	Heavier than air
FREEZING POINT:	Not applicable
MELTING POINT:	Not applicable
EVAPORATION RATE	Negligible (n-butyl Acetate=1)
SOLUBILITY:	Not Soluble
VOLATILES VOLUME % :	0.0
WEIGHT %:	0.0
LIQUID DENSITY:	Heavier than air
APPEARANCE:	White
PHYSICAL STATE:	Grease or Paste
ODOR:	Slight odor
PH:	Not Applicable
VISCOSITY:	Not Applicable
CORROSIVE:	No

Section 10: STABILITY & REACTIVITY

NORMAL STABLE:	Yes
HAZARDOUS POLYMERIZATION:	Will not occur
INCOMPATIBILITY (MATERIALS TO AVOID):	None
CONDITIONS TO AVOID:	None
HAZARDOUS DECOMPOSITIONS PRODUCTS:	Emits toxic fumes when burned
HAZARDOUS POLYMERIZATION:	Will not occur

Section 11: TOXICOLOGICAL INFORMATION

No information is available for the Product Mixture

SKIN IRRITATION:			
SKIN RABBIT:	500g/kg	Mild	ZnO
EYE IRRITATION:			
EYE RABBIT:	500 MG	Mild	ZnO
ACUTE TOXICITY:			
LD50 (Oral Rat)	>8437 mg/kg		ZnO
TCLo (Human Inhalation)	600 mg/kg		ZnO
TDLo (Human Oral)	500 mg/kg		ZnO
TDLo (Intratracheal/rat)	250 mg/kg		AIN

CARCINOGENICITY:	
NTP	Not listed
IARC	Not listed
OSHA REGULATED	Not listed

AMES TEST RESULTS: None

OTHER INFORMATION:

OEL-RUSSICA: TWA 6 mg/m3, JUNE 2003 AIN

Only selected Registry of Toxic Effects if Chemical substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

Section 12: ADDITIONAL REGULATORY INFORMATION

SARA TITLE III SECTION 313

This product contains none of the toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right To Know Act of 1986 and of 40 CFR 372

PROP 65 (CARCINOGEN)

This product does not contain a chemical known to the state of California to cause cancer.

PROP 65 (TERATOGEN)

This product does not contain a chemical known to the state of California to cause birth defects or other reproductive harm.

Section 13: ECOLOGICAL INFORMATION

BIODEGRADATION:	Not Applicable
BIOACCUMULATION:	No information is available for mixture
AQUATIC TOXICITY:	No information available for mixture
OTHER INFORMATION:	None
1999/45/EC/Annex III:	No Environmental hazards

Section 14: SPECIAL PRECAUTIONS

Keep container closed when not in use. Store at 60-95 degrees F° and out of the sun. Use adequate ventilation to avoid breathing vapors when cover is removed. Ground all equipment when handling flammable solvent borne materials.

No other precautions.

Section 15: DISPOSAL CONSIDERATIONS

Waste material can be burned in a chemical incinerator equipped with an afterburner and scrubber. Do not dispose of the emptied container unless the contents have been completely removed. Do not dispose of the emptied container unlawfully. Consult state or local officials for proper disposal method.

Section 16: TRANSPORT INFORMATION

ROAD TRANSPORT:

ADR: International Carriage of Dangerous Goods by Road

UN NUMBER:

Not Regulated

DOT PROPER SHIPMENT NAME

DOT/ADR HAZARD CLASS:

DOT/ADR LABELS:

PLACARD:

DOT/ADR PACKAGING GROUP:

HAZARD NUMBER-ADR:

ADR PROPER SHIPMENT NAME:

EPA HAZARDOUS WASTE CLASS:

MARINE POLLUTANT:

DOT REPORTABLE QUANTITY (49 CFR 172.101, APP.) and CERCLA REPORTABLE QUANTITY (40 CFR PART 302 TABLE 302.4) HAZARDOUS SUBSTANCE(S) NAME/ (CAS NO.), CONTENT(S) AND RQ: Zinc oxide/ CAS 1314-13-2, ca. 20%: 1000 lbs (454 kg)

RAIL TRANSPORT:

RID CLASS No.:

Not Regulated

RID PACKING GROUP:

SEA TRANSPORT: IMO

UN NUMBER SEA

Not Regulated

IMDG HAZARD CLASS:

IMDG PACKING GROUP:

EmS No.:

MARIN POLLUTANT:

SEA TRANSPORT NOTES:

AIR TRANSPORT:

IATA/ICAO CLASS:

Not Regulated

Section 17: REGULATORY INFORMATION

LABEL FOR SUPPLY:

R-Phrase:	R36	Irritating to eyes
	R38	Irritating to skin
S-Phrase:	S24	Avoid contact with Skin
	S25	Avoid contact with Eyes

TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS:

This product is in compliance with rules, regulations and orders of TSCA.

SUPER FUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SUPPLIER NOTIFICATION:

This regulation requires submission of annual reports of toxic chemical(s) that appear in section 313 of the Emergency Planning & Community Right to Know Act of 1986 and 40 CFR 372. This information must be included in all MSDS's that are copied and distributed for the material.

The toxic chemicals contained in this product are: Zinc Oxide

CALIFORNIA PROPOSITION 65:

This regulation requires a warning for California Proposition 65 chemical(s) under the statute. The California proposition 65 chemical(s) contained in this are product are none.

STATE RIGHT-TO-KNOW TOXIC SUBSTANCES LIST:

Florida Toxic Substance(s):	Not Listed
Massachusetts hazardous substance(s):	Zinc Oxide
Pennsylvania hazardous substance code(s):	Zinc Oxide
New Jersey:	Not Listed
Michigan:	Not Listed

CANADA:**WHMIS-INFORMATION:**

The chemical components of this product are in compliance with WHMIS regulations.

This product has been classified in accordance with the hazard criteria of the Controlled Equipment (CPR), and the MSDS contains all of the information required by the CPR.

RoHS CERTIFICATION:

The Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS), EU Directive (2002/95/EC). We hereby certify that the hazardous substances regulated by the RoHS Directive 2002/95/EC are not used intentionally as ingredient(s) for GR-104, which is manufactured by Alfa International Corporation. This certification is valid only for this product GR-104. Packaging materials were not considered for this certification.

WEEE CERTIFICATION:

Waste Electrical and Electronic Equipment (WEEE), European Union Directive 2002/96/EC. Alfa International Corporation does not consider GR-104 a product that qualifies as one of the 10 categories of electrical and electronic equipment listed in Annex 1A of Directive 2002/96/EC. Also, the products manufactured by Alfa International Corporation do not intentionally contain any of the regulated substances, preparations, or components listed in Annex II of Directive 2002/96/EC. This certification is valid only for this product. GR-104 Packaging materials were not considered for this certification.

EUROPEAN UNION:

This product has been reviewed for compliance with the following European Community Directives: Directive 67/548/EEC, Directive 2007/59/EC, Directive 1999/45/EC, and Directive 2001/58/EC.

EINECS: European Inventory of Existing Commercial Chemical Products.

ELINCS: European List of Notified Chemical Substances

WGK Classification, Germany=1 (Water Resources Act in Germany).

Section 18: OTHER INFORMATION**Full Text:**

European Community Hazards Identification

R: 50/53: Very toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment

S: 60 This material and its container must be disposed of as hazardous waste

S:61: Avoid release to the environment. Refer to special instructions/Safety Data Sheets.

Danger Symbol(s): N Dangerous for the environment

N/D = Not Determined

N/AP = Not Applicable

N/A = Not Available

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