

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOLYGREEN EARTH SN 0W-20
Product Code: 29-E-02
Product Description: Petroleum hydrocarbons, Synthetic Base Stocks and Additives
Recommended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: CHUGAI YUKAGAKU KOGYO Co., Ltd.
 790 Nisibukuro, Yasio-City, Saitama Pref. JAPAN
 Phone No. +81-48-924-5211
 Facsimile No. +81-48-924-5212
 Department in charge Development dept.

Supplier General Contact Phone No. +81-48-929-0051

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines.

CLASSIFICATION

PHYSICAL / CHEMICAL HAZARDS

Not classified

HEALTH / ENVIRONMENTAL HAZARDS

Not classified hazardous

LABELING

Not applicable

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

COMPOSITION INFORMATION

Component	Cas No.	Contents (%)
Petroleum hydrocarbons	64742-54-7	75-85
Polyalphaolefin	68037-01-4	2-8
Mixture Additives	(CBI)	10-20

JAPANESE COMPOSITION INFORMATION

Industrial Safety and Health Law: Article 57, Chemical substances to be labelled: None.

Industrial Safety and Health Law: Article 57-2, Chemical Substances to be notified:

Name	ISHL Ordinance Number	Contents (%)
Mineral Oil	168	83-93

ISHL Enforcement Order, Table 3-1, Manufacturing Permit Chemical Substances: None.

PRTR Class 1 Designated Chemical Substances : None.

PRTR Class 2 Designated Chemical Substances: None.

PDSCL Chemical Substances: None.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek medical attention.

SECTION 5 FIRE FIGHTING MEASURES**EXTINGUISHING MEDIA**

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 228°C [ASTM D-92 COC]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES**NOTIFICATION PROCEDURES**

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PERSONAL PRECAUTIONS

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE**HANDLING**

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance.

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation. Particulate

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use. Nitrile, Viton

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below.

GENERAL INFORMATION

Physical State: Liquid

Color: Clear Brown

Odor: Characteristic

Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Density (at 15 C): 0.85

Flash Point [Method]: 228°C [ASTM D-92 COC]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

Boiling Point / Range: N/D

Vapor Density (Air = 1): > 2 at 101 kPa

Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C

Evaporation Rate (n-butyl acetate = 1): N/D

Log Pow (n-Octanol/Water Partition Coefficient): N/D

Solubility in Water: Negligible

Viscosity: 47 mm²/sec at 40 °C , 9 mm²/sec at 100°C

Decomposition Temperature: N/D

Pour Point: -45.0°C

SECTION 10	STABILITY AND REACTIVITY
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STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11	TOXICOLOGICAL INFORMATION
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ACUTE TOXICITY (Petrorleum hydrocarbons, Polyalphaolefin)

<u>Route of Exposure</u>	<u>Remarks</u>
Inhalation Toxicity (Rat): LC50 > 5000 mg/m3 Irritation: No end point data.	Minimally Toxic. Based on test data for structurally similar materials. Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin Toxicity (Rabbit): LD50 > 5000 mg/kg Irritation (Rabbit): Data available.	Minimally Toxic. Based on test data for structurally similar materials. Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

OTHER HEALTH EFFECTS FROM SHORT AND LONG TERM EXPOSURE

Anticipated health effects from sub-chronic, chronic, respiratory or skin sensitization, mutagenicity, reproductive toxicity, carcinogenicity, target organ toxicity (single exposure or repeated exposure), aspiration toxicity and other effects based on human experience and/or experimental data.

For the product itself:

Repeated and/or prolonged exposure may cause irritation to the skin, eyes, or respiratory tract.

Contains:

Petroleum hydrocarbons: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitizing in test animals and humans.

Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitizing in test animals and humans.

SECTION 12	ECOLOGICAL INFORMATION
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ECOTOXICITY : N/D

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

SECTION 13	DISPOSAL CONSIDERATIONS
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DISPOSAL METHODS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. **DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.**

SECTION 14 TRANSPORT INFORMATION**LAND – Precautionary Transportation Measures & Conditions:**

Do not co-load together with dangerous substances categorized in Fire Cat. 1 and/or 6, and/or High Pressure Gases.

NOTE: Comply with applicable laws and regulations.

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION**National Laws and Regulations:**

Chemical Substances Control Law: Existing Chemicals
Fire Service Law: Category 4, Flammable Liquids, Class III (#4 Petroleum)
ISHL: Notified Substances
Maritime Pollution Prevention Law: Regulated
Poisonous and Deleterious Substances Control Law (PDSCL): Not Regulated
Pollutant Release and Transfer Register (PRTR): None Regulated
Sewage Water Law: Mineral oil (5mg/l max.)
Waste Treatment Law : Controlled Industrial Waste
Water Pollution Control Law: Effluent Regulation (5mg/l max.)

SECTION 16 OTHER INFORMATION

SOURCE OF REFERENCE MATERIAL: Sources of information used in preparing this SDS included one or more of the following: CONCAWE Product Dossiers, publications from other trade associations, such as the EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, U.S. NTP publications, and other sources, as appropriate.

N/D = Not determined, N/A = Not applicable ,CBI = Confidential Business Information

Updates made in accordance with implementation of GHS requirements.

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