Material Safety Data Sheet

1. MATERIAL AND COMPANY IDENTIFICATION

Material Name : **MULTI PURPOSE EP GREASE (NLGI 2) LITHIUM BASE**

Manufacturer/Supplier : NanoC Ventures Sdn Bhd
No. 3, Jalan SR 7/11, Taman Serdang Raya
43300 Seri Kembangan, Selangor Darul Ehsan.

MSDS Request :

Emergency Telephone Number

Spill Information : +603 8957 9920

Health Information : +603 8957 9920 / +6012 323 0407

2. COMPOSITION/INFORMATION ON 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 [%]
Naphthenic acid	1338-24-5	Xi; R36/38-R43	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319	0,1 - 0,9

3. HAZARDS IDENTIFICATION

Based on available data this substance / mixture does not meet the classification criteria.

Label elements
Safety data sheet available for professional user on request.

Hazard pictograms Signal word
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 HAZARDS: Not classified as environmental hazard according to CLP criteria.

. Precautionary statements : **Prevention:**
No precautionary phrases.
Response:
No precautionary phrases.
Storage:
No precautionary phrases.
Disposal:
No precautionary phrases.

Sensitising components : Contains naphthenic acid. May produce an allergic reaction.

4. FIRST AID MEASURES

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

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

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

Eye Contact : Flush eye with copious quantities of water for at least 30 minutes while holding eye lid open.. If persistent irritation occurs, obtain medical attention.

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

Advice to Physician : Treat symptomatically

High pressure injection injuries require prompt surgical intervention and possibly steroid therapy, to minimise 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 anaesthetics or hot soaks should be avoided because they can contribute to swelling, vasospasm and ischaemia. Prompt surgical decompression, debridement and evacuation of foreign material should be performed under general anaesthetics, and wide exploration is essential.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Specific Hazards : 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.

Suitable Extinguishing : Alcohol free Foam, Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media : Do not use water in a jet.

Protective Equipment for Firefighters : Proper protective equipment including chemical resistant gloves are to 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 fighter's clothing approved to relevant Standards

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency : Avoid contact with skin and eyes.

Procedures	: Use appropriate containment to avoid environment 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	: Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.
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.

7. HANDLING AND STORAGE

General Precautions	: Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. 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.
Handling	: Avoid prolonged or repeated contact with skin. Avoid inhaling vapour 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 in order to prevent fires.
Storage	: Keep container tightly closed and in a cool, well-ventilated place. Use properly labeled and closeable containers. Storage Temperature: 0 - 50 °C / 32 - 122 °F.
Recommended Materials	: For containers or container linings, use mild steel or high density polyethylene.
Unsuitable Materials	: PVC.
Additional Information	: Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components	CAS-No. EC-No. Registration number	Value Type	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 analysed 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.

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 product's semi-solid consistency, generation of mists and dusts is unlikely to occur.

Exposure Controls : 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.

Personal Protective Equipment : 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 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 combined particulate/organic gases and vapors [boiling point >65 °C (149 °F)].

Hand Protection : 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, glove thickness, 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 so 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.

Protective Clothing : Skin protection not ordinarily required beyond standard issue work clothes.

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.

Environmental Exposure Control: Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation. 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 waste water. Waste water should be treated in a municipal or industrial waste water 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 vapour.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Semi-solid at ambient temperature
Odour	: Slightly Hydrocarbon
pH	: Data Not Applicable
Drop Point	: 203 °C / 357 °F estimated value(s)
Work Penetration Test @ 25 °C	: 276.3
Flash point	: 249°C (COC)
Auto Ignition Temperature	: > 320°C (COC)
Upper / lower Flammability or Explosion limits	: Not flammable
Vapour pressure	: < 0.5 Pa at 20 °C / 68 °F (estimated value(s))
Density	: Typical 1.000 kg/cm3 at 15 °C / 59 °
Kinematic viscosity	: 173 mm2/s 40 °C : 15.6 mm2/s 100 °C
Vapour density (air=1)	: Data Not Available.

10. STABILITY AND REACTIVITY

Stability	: Stable
Conditions to Avoid	: Exposure to water vapour
Condition to Avoid	: Heat & Open Flame
Hazardous Decomposition Products	: Hazardous decomposition products are not expected to form during normal storage.
Materials to Avoid	: Avoid contact with Strong oxidizing agent.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	: Information given is based on data on the components and the toxicology of similar products.
Acute Oral Toxicity	: Harmful if swallowed
Acute Dermal Toxicity	: Expected to be of low toxicity: LD50 > 5000 mg/kg , Rabbit
Acute Inhalation Toxicity	: Expected to be of low toxicity: LD50 > 5mg/l , 4 h Rat
Skin Irritation	: Expected to be non – irritating to skin
Eye Irritation	: Expected to be slightly irritating.
Respiratory Irritation	: Inhalation of vapours or mists may cause irritation.
Sensitisation	: Not expected to be a skin sensitiser.
Repeated Dose Toxicity	: Not expected to be a hazard.
Mutagenicity	: Not expected to be mutagenic.
Carcinogenicity	: Components not expected to be carcinogenic.
Reproductive and	: Not expected to impair fertility. Not expected to be a developmental toxicant.

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.

12. ECOLOGICAL INFORMATION

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).

Toxicity to fish (Acute : toxicity)	: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to crustacean (Acute : toxicity)	: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to algae/aquatic	: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Persistence and degradability	: Expected to be not readily biodegradable., Major constituents are expected to be inherently biodegradable, but contains components that may persist in the environment.
Bioaccumulative potential	: Contains components with the potential to bioaccumulate.
Mobility in soil	: 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	: 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 potential or global warming potential. Poorly soluble mixture., May cause physical fouling of aquatic organisms. Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/

13. DISPOSAL CONSIDERATIONS

Material Disposal : 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.

Container Disposal : Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

Local Legislation : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

Land (as per ADR classification): Not regulated
This material is not classified as dangerous under ADR regulations.

IMDG
This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)
This material is not classified as dangerous under IATA regulations or need to follow country speciic requirements.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

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.

16. OTHER INFORMATION

Full text of R-Phrases
R36/38 : Irritating to eyes and skin.
R43 : May cause sensitisation by skin contact.

Full text of H-Statements
H315 :Causes skin irritation.
H317 :May cause an allergic skin reaction.
H319 :Causes serious eye irritation.

Full text of other abbreviations
Eye Irrit. : Eye irritation
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

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.