Material Safety Data Sheet

SECTION 1:IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Production Name: Heavy Duty Sliding Paste SuperChem773H

Date of Preparation: 16 Mar.2013

Date of Audit: 24 OCT. 2022

Company: AIGI Environmental Incorporation

81Suyuan Ave., Nanjing, China 211100

Tel: 0086 25 52788148 Fax: 0086 25 52788149

For Chemical Emergency: Call: 800 828 9829

Recommended Applications: applicable to the lubrication of high temperature and heavy load equipment, especially open gear, cannot be used in aerobic system.

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

This product is composed of deeply refined base oil, unique thickener and additives.

Under normal use, this product is not a hazardous material.

2.1. Classification of the substance or mixture

2.1.1. Australian statement of hazardous nature

Not classified as hazardous according to criteria of Safe Work Australia.

2.1.2. Addintional Information

For full text of H-statements: see SECTIONS 2.2 and 16.

2.2 Label Elements：

Precautionary statement:

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves and eye/face protection.

P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor.

P332/313 If skin irritation occurs: Get medical advice/attention.

P362/364 Take off contaminated clothing and wash it before reuse.

Supplemental information: None

2.3. Other hazards

None expected in industrial use. The Graphite and Molybdenum Disulfide listed do not separate from the mixture or become airborne, therefore do not present a hazard in normal use.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance: Mixture

Ingredients	CAS	% Wt.	CLP/GHS Classification
Graphite	7782-42-5	10～30	Not classified*
Molybdenum disulfide	1317-33-5	1～5	Not classified*

Substance with a workplace exposure limit.

SECTION 4: FIRST AID MEASURES

Skin contact: Wash skin with soap and water.Contact physician if irritation persists.

Eye contact: Flush eyes for at least 15 minutes with large amounts of water. Contact physician if irritation persists.

Inhalation: Remove to fresh air. If not breathing, administer artificial respiration. Contact physician.

Ingestion: Do not induce vomiting. Contact physician immediately.

Most important symptoms and effects, both acute and delayed: Direct contact can cause severe eye irritation, possibly burns and skin irritation. High vapor concentrations may irritate eyes, respiratory tract and possibly cause dizziness and nausea.

SECTION 5: FIREFIGHTING MEASURES

Suitable extinguishing media: Carbon dioxide, dry chemical, foam or water fog

Unsuitable extinguishing media: High volume water jet

Special hazards: Pressure vessels will explode when heated

Special fire extinguishing measures: Cool exposed containers with water. Recommend Firefighters wear self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuation area, fully ventilated, utilize exposure controls and personal protection as specified in Section 8.

Environmental protection: Prevent from entering sewers, drainage ditches, rivers and lakes.

Methods and material for containment and cleaning up: The methods of containment and removal of spilled chemicals and the disposal materials used: contain spill to a small area, keep away from ignition sources and prohibit smoking. The spill may cause the ground to slip, which shall be absorbed by sand, sawdust, clay or other inert materials and then place in a suitable container for disposal.

SECTION 7: HANDLING AND STORAGE

Operation and disposal: observe good operation procedures; keep away from ignition sources, do not smoke, and do not spray on open flames or other ignition sources. Do not smoke, eat or drink in the working area.

Conditions for safe storage: Store in a cool and dry place. Pressure vessels should be protected from sunlight and should not be exposed to temperatures exceeding 50 ℃.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limit values

Ingredients	OSHA PEL[1]		ACGIH TLV[2]		UK WEL[3]		AUSTRALIA ES[4]	
	Ppm	mg/m3	ppm	mg/m3	ppm	mg/m3	ppm	mg/m3
Graphite	(total)	15	(resp.)	2	(ihal.)	10	(resp.)	3
Molybdenum disulfide	N/A	20 mppcf	(ihal.)	10	N/A	10	N/A	10
			(resp.)	3		STEL. 20		

[1] United States Occupational Health & Safety Administration permissible exposure limits
[2] American Conference of Governmental Industrial Hygienists threshold limit values
[3] EH40 Workplace exposure limits, Health & Safety Executive
[4] Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants

8.2. Exposure controls
Engineering measures:Use only in well ventilated areas. If exposure limits are exceeded, provide adequate ventilation.
Individual protection measures
Respiratory protection: Not normally needed. If exposure limits are exceeded, use a half or full-face respirator with combined dust/organic vapour filter.
Hand protection: Chemical resistant gloves (e.g., nitrile rubber,neoprene)
Eye and face protection: Safety glasses
Skin and body protection: usually not required. If the leakage exceeds the standard, please wear rubber protective clothing, one-piece work clothes and work boots.
Hygienic measures: keep good personal hygiene habits, wash hands thoroughly after operating or handling the product, and clean work clothes and protective equipment regularly to remove pollutants; No smoking or eating in the workplace; Keep the workplace clean.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state : paste
Odour: mild odour
Colour: dark gray
Vapour pressure @ 20°C: <1mmHg
Boiling point： Not applicable
% Aromatics by weightt： No data available
Melting point： No data available
PH： Not applicable
% Volatile (by volume)： No data available
Density: ≈1.0kg/L
Flast point： ≥200℃
Vapour density (air=1) ： No data available
Ignition point： No data available
Solubility in water： insoluble
Explosive limit： No data available
Rate of evaporation (ether=1) ： No data available
Other information: None

SECTION 10: STABILITY AND REACTIVITY

Chemical stability ： Stable when stored at normal ambient temperature.
Possibility of hazardous reactions ： No dangerous reactions known under conditions of normal use.
Hazardous substances generated by decomposition: will not decompose under normal use conditions.
Conditions to avoid :Open flames and red hot surfaces.
Materials to avoid: strong acid, strong alkali and strong oxidant such as liquid chlorine and concentrated oxygen.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects
Primary route of exposure under normal use: Inhalation, skin and eye contact.

Acute toxicity -

Oral: ATE-mix, oral: 30,303 mg/kg

Substance	Test	Result
Graphite	LD50, rat	>2000mg/kg
Molybdenum disulfide	LD50, rat	>5000mg/kg

Dermal:ATE-mix, dermal: 90,909 mg/kg

Substance	Test	Result
Molybdenum disulfide	LD50, rat	>16000mg/kg

Inhalation: High vapor concentrations may irritate eyes, respiratory tract and possibly cause dizziness and nausea. ATE-mix, inhalable: 909.1 mg/l

Substance	Test	Result
Graphite	LC50, rat, 4 h	> 2 mg/l (dust)

Skin corrosion/irritation: Direct skin contact can cause irritation.

Substance	Test	Result
Graphite	Skin irritation, rabbit	Not irritating
Molybdenum disulfide	Skin irritation, rabbit	Not irritating

Serious eye damage/ irritation: Direct contact can cause irritation.

Substance	Test	Result
Graphite	Eye irritation, rabbit	Not irritating

Respiratory or skin sensitisation:

Substance	Test	Result
Graphite	Skin sensitization, (OECD 429) mouse	Not sensitizing
Molybdenum disulfide	Skin sensitization, (OECD 406) mouse	Not sensitizing

Germ cell mutagenicity: Graphite, Molybdenum disulfide: based on available data, the classification criteria are not met.

Carcinogenicity: This product contains no carcinogens as listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA) or the European Chemicals Agency (ECHA).

Reproductive toxicity: Graphite: based on available data, the classification criteria are not met.

STOT – single exposure: No data available

STOT – repeated exposure: Prolonged, excessive inhalation of Graphite dust has caused emphysema and pneumoconiosis. The Graphite listed do not separate from the mixture or become airborne,therefore do not present a hazard in normal use. Graphite: based on available data, the classification criteria are not met.

Aspiration hazard: based on available data, the classification criteria are not met.

Other information: None known

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. The information given below is based on a knowledge of the components and the ecotoxicology of similar substances.

12.1. Toxicity

This product is expected to exhibit low toxicity to aquatic and soil organisms. Graphite: 96 h LC50 (fish) > 100 mg/l. Talc: 24 h LC50 (fish) > 100 g/l.

12.2. Persistence and degradability

Graphite, Molybdenum disulfide: inorganic substances.

12.3. Bioaccumulative potential

Graphite, Molybdenum disulfide: not expected to bioaccumulate.

12.4. Mobility in soil

Insoluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9).

12.5. Results of PBT and vPvB assessment : Not available

12.6. Other adverse effects : None known

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Check local, state and national/federal regulations and comply with

the most stringent requirement. Not classified as hazardous according to 2008/98/EC.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

ADG/ADR/RID/ADN/IMDG/ICAO: not applicable

TDG: not applicable

US DOT: not applicable

14.2. UN proper shipping name

ADG/ADR/RID/ADN/IMDG/ICAO: NON-HAZARDOUS, NON REGULATED

TDG: NON-HAZARDOUS, NON REGULATED

US DOT: NON-HAZARDOUS, NON REGULATED

14.3. Transport hazard class(es)

ADG/ADR/RID/ADN/IMDG/ICAO: not applicable

TDG: not applicable

US DOT: not applicable

14.4. Packing group

ADG/ADR/RID/ADN/IMDG/ICAO: not applicable

TDG: not applicable

US DOT: not applicable

14.5. Environmental hazards : not applicable

14.6. Special precautions for user : not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code : not applicable

14.8. Other information: not applicable

SECTION 15: REGULATORY INFORMATION

This MSDS complies with the following national standards

《Content and Project Sequence of Safety Data Sheet for Chemicals 》(GB/T16483-2008)

《General Rules for Classification and Hazard Publicity of Chemicals 》(GB13690-2009)

《Classification and Name Number of Dangerous Goods 》(GB6944-2012)

《Classification Method for Transport Packaging of Dangerous Goods 》(GB/T15098-2008)

《Guidelines for the Preparation of Labels of Hazardous Chemicals 》(GB15258-2009)

《Classification and Name Number of Dangerous Goods 》(GB6944-2012)

《Packaging Marks for Dangerous Goods 》(GB190-2009)

《Pictorial Marks for Packaging, Storage and Transportation 》(GB/T191-2008)

《List of Dangerous Goods 》 (GB12268-2012)

《General Rules for Storage of Common Dangerous Goods 》(GB15603-1995)

《General Technical Conditions for Transport Packaging of Dangerous Goods 》(GB12463-1990)

《General Rules for Classification and Safety of Chemicals 》(GB13690-2009)

《Specifications for Classification and Labeling of Chemicals 》(GB30000)

And the following rules:

《Provisions on the Administration of Road Transport of Dangerous Goods 》(Decree No. 2, 2013 of the Ministry of Transport of the People's Republic of China)

《Regulations on the Administration of Railway Transport of Dangerous Goods 》(2008 Edition of the Ministry of Railways of the People's Republic of China)

《Regulations on the Safety Management of Hazardous Chemicals 》(promulgated by the State Council in 2013)

《List of the Most Common Dangerous Goods 》

《Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes 》

《Recommendations on the Transport of Dangerous Goods 》United Nations (UN TRDG)

SECTION 16: OTHER INFORMATION

Key literature references

1. Zhou Guotai, Safety Technology of Dangerous Chemicals, Chemical Industry Press, 1997
2. Toxic Chemicals Management Office of the State Environmental Protection Administration, Beijing Institute of Chemical Industry, Environmental Data Manual of Chemical Toxicity Regulations, China Environmental Science Press, 1992
3. New Safety Manual for Dangerous Goods, Chemical Industry Press, April 2001
4. 《Catalogue of Hazardous Chemicals (2015 Edition)》

This information is based solely on data provided by suppliers of the materials used, not the product itself; No warranty is expressed or implied regarding the suitability of the product for the user's particular purpose. The user must make their own determination as to suitability. For the reasons of using it for special purposes, not following the recommended recommendations, for any damage or injury caused by

any inherent danger of this substance, or for use under some circumstances beyond our control and unfamiliar to us, we will not bear any responsibility for the consequences after use.

1. Composition / Information on ingredients

Hazardous Ingredients	%Wt.	CAS NO.	EC No.	Symbol	R-phrase
None					

Do not use on oxygen systems.

Do not present a hazard in normal use.

2. Hazards Identification

May cause eye irritation.

3. First Aid Measures

Inhalation: Remove to fresh air. If not breathing, administer artificial respiration. Contact physician.

Skin Contact: Wash skin with soap and water. Consult physician if irritation develops.

Eye Contact: Flush eyes for at least 15 minutes with large amounts of water. Contact physician if irritation persists.

Ingestion: Do not induce vomiting. Contact physician immediately.

Advice to Physician: Treat symptoms.

4. Fire-Fighting Measures

Extinguishing Methods: Carbon Dioxide, dry chemical or foam.

Unusual Fire and Explosion: None.

Special Fire Fighting Measures: Cool exposed containers with water. Recommend Firefighters ware self-contained breathing apparatus.

5. Accidental Release Measures

Personal Precautions: Evacuate area. Provide adequate ventilation. Utilize exposure controls and personal protection as specified in Section 8.

Environmental Precautions: No special requirements.

Methods of Clean Up: Contain spill to a small area. Pick up with absorbent material (sand, sawdust, clay, etc.) and place in a suitable container for disposal. Use caution - floor may be slippery where spill has occurred.

6. Handling and Storage

Handling: Wash before eating, drinking or smoking. Injection into the body without immediate medical treatment may cause loss of affected part of the body.

Storage: Store in a cool, dry area.

7. Exposure Controls / Personal Protection

Respiratory Protection: Not normally needed.

Ventilation: No special Requirements.

Protective Gloves: Chemical resistant gloves.

Eye Protection: Safety glasses.

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Other: None.

8. Physical and Chemical Properties

Physical state:	Paste	Odour	Mild odor
Color	Dark grey	Vapour pressure @20℃	Not determinded
Initial boiling point	Not applicable	Explosion limits	Not determined
Melting point	Not determined	pH	Not applicable
Drop point	>200℃	Density	0.95-1.00kg/l
Solubility in water	insoluble	Method	PM Closed Cup

9. Stability and Reactivity

Stability: Stable

Hazarous Polymerization: Will not occur.

Hazardous Decomposition Products: Hazardous decomposition products are not expected to form during normal storage.

Conditions to Avoid: Open flames and red hot surfaces.

Materials to Avoid: Strong oxidizers like liquid Chlorime and concentrated Oxygen.

10. Toxicological Information

Primay Route of Exposure Under Normal Use: Inhalation, skin and eye contact.

Acute Effects: Direct eye contact may cause eye irritation. High vapor concentrations may irritate eyes, respiratory tract and possibly cause dizziness and nausea.

Chronic Effects: Prolonged or repeated skin contact may cause skin irriation.

Other Information: As per 29 CRF 1910.1200(Hazard Communication), this product contains no carcinogens as listed in the National Toxicology Program (NTP), the International Agency for Reserch on Cancer (IARC) or the Occupational Safety and Health Administration (OSHA).

11. Ecological Information

Ecotoxicological data have not been deternied specifically for this product. The information given belw is based on a knowledge of the components and the ecotoxicolgy of similar substances.

Mobility: Insoluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9).

Ecotoxicity: Not determined.

12. Disposal considerations

Incinerate absorbed material with a properly licensed facility. Check local , state and natioanl / federal regulations and comply with the most stringent requirement.

13. Transport Information

TDG: NONHAZARDOUS, NOT REGULATED.

IMDG: NONHAZARDOUS, NOT REGULATED.

IATA/ICAO: NONHAZARDOUS, NOT REGULATED.

ADR/RID: NONHAZARDOUS, NOT REGULATED.

Shipping Name: NONHAZARDOUS, NOT REGULATED.
Hazard Class: NOT REGULATED
UN/NA #: NOT APPLICABLE
Packaging Group $ NOT APPLICABLE
Emergency Response Guide Book No. - NOT APPLICABLE

14. Regulatory Information

European Classification: None
Name of the substances on the label: None
Other information: None
Canadian Classification: None -
Precautionary and First Aid Measure(s): -
Other Information: None

15. Other Information

US EPA SARA TITLE III
312 Hazards: 313 Chemicals:
None None
Hazardous Materials Identification System (HMIS)
4= Severe Hazard
3= Serious Hazaard
2- Moderate Hazard
1= Slight Hazard
0= Minimal Hazard
*= See Secition 8

HEALTH	1
FLAMMABILITY	1
REACTIVITY	1
Personal Protection	*

JAPAN PRTR Class 1 Chemcials: Class 2 Chemcials
None None
Risk phrases in secition 3: R11: Highly flammable.
R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.
R39/23/24/25: Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

This information is based solely on data provided by suppliers of the materials used, not on the mixture itself. No warranty is expressed or implied regarding the accuracy of the data or the suitability of the product for the user's particular purpose. The user must make their own determination as to suitability.