COMPILE REPORT OF MSDS

No: UTS0906963 **Report Date:2009/6/16**

Applicant : GoodStar Plastic&Metal Factory Ltd.

Address : Flat A-C, 3/F, Wang Kwong Industrial Building, 45 Hung To Road, Kwun Tong, Kowloon, Hong Kong

The following sample was submitted and identified by/on behalf of the applicant as:

Product Name : pencil lead

Receiving Date : Jun 10, 2009

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Compile Requested : MSDS report of products

Compile Results : Please refer to appurtenance page1-8

Signed for and on behalf of UTS

Jeffery Chou, General Manager

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MSDS (Material Safety Data Sheet)

1 Identification of the substance / Preparation and of the company

PRODUCT NAME	**: pencil lead**
Manufacturer/Supplier	**: GoodStar Plastic&Metal Factory Ltd.**
Address	**: Flat A-C, 3/F, Wang Kwong Industrial Building, 45 Hung To Road, Kwun Tong, Kowloon, Hong Kong**
Export to	**: worldwide**
Phone	**: +852 2342 8961**
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E-mail	**: tarrywong@goodstar.com**

2 HAZARDS IDENTIFICATION

CANADIAN WHMIS SYMBOLS

EMERGENCY OVERVIEW

RISK

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Ingestion of finely divided carbon may produce gagging and constipation. Aspiration does not appear to be a concern as the material is generally regarded as inert and is often used as a food additive. Ingestion may produce a black stool. The material has NOT been classified as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality (death) rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, unintentional ingestion is not thought to be cause for concern.

EYE

Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result. The material may produce foreign body irritation in certain individuals.

SKIN

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. The material is not thought to produce adverse health effects or skin irritation following contact (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

INHALED

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Persons with impaired respiratory func

-tion, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. Impurities found in carbons can be toxic, including iodine. Carbon dusts in the air may cause irritation of the mucous membranes, eyes and skin. Coughing, irritation of the upper airways and eye burning may occur.

CHRONIC HEALTH EFFECTS

Harmful: danger of serious damage to health by prolonged exposure through inhalation. Harmful: danger of serious damage to health by prolonged exposure through inhalation. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. This has been demonstrated via both short- and long-term experimentation. There is insufficient evidence to suggest that exposure to carbon black causes increased susceptibility to cancer or other ill effects. Some lung changes can occur after a prolonged period of exposure as well as increased strain on the right side of the heart. Repeated exposures, in an occupational setting, to high levels of fine- divided dusts may produce a condition known as pneumoconiosis which is the lodgment of any inhaled dusts in the lung irrespective of the effect. This is particularly true when a significant num -ber of particles less than 0.5 microns (1/50,000 inch), are present. Lung shadows are seen in the X-ray. Symptoms of pneumoconiosis may include a progressive dry cough, shortness of breath on exertion (exertional dyspnea), increased chest expansion, weakness and weight loss. As the disease progresses the cough produces a stringy mucous, vital capacity decreases further and shortness of breath becomes more severe. Other signs or symptoms include altered breath sounds, diminished lung capacity, diminished oxygen uptake during exercise, emphysema and pneumothorax (air in lung cavity) as rare complication. Removing workers from possibility of further exposure to dust generally leads to halting the progress of the lung abnormalities. Where worker-exposure potential is high, periodic examinations with emphasis on lung dysfunctions should be undertaken Dust inhalation over an extended number of years may produce pneumoconiosis. Pneumoconiosis is the accumulation of dusts in the lungs and the tissue reaction in its presence. It is further classified as being of noncollagenous or collagenous types. Noncollagenous pneumoconiosis, the benign form, is identified by minimal stromal reaction, consists mainly of reticulin fibres, an intact alveolar architecture and is potentially reversible. Graphite workers have reported symptoms of headaches, coughing, depression, low appetite, dyspnoea (difficult breathing) and black sputum. A number of studies indicate that graphitosis is a progressive and disabling disease and that the presence of crystalline silica and some silicates as graphite impurities have a pronounced synergistic effect. Workers suffering from graphite pneumoconiosis have generally worked in the industry for long periods, i.e. 10 years or more, although some cases have been reported after as little as four years. Data indicate the higher the crystalline silica content of graphite the greater is the severity of the pneumoconiosis.

3 Composition / Information on ingredients

Ingredient	Weight in Percent (%)	CAS No.	Notes
Paraffin Wax Fume	0.25	8002-74-2	--
Tallow Oils	0.25	61789-97-7	--
Graphite	75	7782-42-5	--
Kaolin	24.5	1332-58-7	--

4 First aid measures

SWALLOWED

• Immediately give a glass of water.

• First aid is not generally required. If in doubt, contact a Poisons Information Center or a doctor.

EYE

If this product comes in contact with eyes:

• Wash out immediately with water.
• If irritation continues, seek medical attention.
• Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin or hair contact occurs:
• Flush skin and hair with running water (and soap if available).
• Seek medical attention in event of irritation.

INHALED

• If fumes or combustion products are inhaled remove from contaminated area.
• Other measures are usually unnecessary.

NOTES TO PHYSICIAN

Treat symptomatically.

5 FIRE-FIGHTING MEASURES

Flash Point (°F): Not applicable
Lower Explosive Limit (%): Not available.
Upper Explosive Limit (%): Not available.
Auto ignition Temp (°F): >1112

EXTINGUISHING MEDIA

There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for surrounding area.

FIRE FIGHTING

• Alert Emergency Responders and tell them location and nature of hazard.
• Wear breathing apparatus plus protective gloves for fire only.
• Prevent, by any means available, spillage from entering drains or water course.
• Use fire fighting procedures suitable for surrounding area.
• Do not approach containers suspected to be hot.
• Cool fire exposed containers with water spray from a protected location.
• If safe to do so, remove containers from path of fire.
• Equipment should be thoroughly decontaminated after use.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

• Non combustible
• Not considered a significant fire risk
• Heating may cause expansion or decomposition leading to violent rupture of containers
• Decomposes on heating and produces toxic fumes of carbon monoxide
• May emit acrid smoke and poisonous, corrosive fumes.

A fire in bulk finely divided carbon may not be obviously visible unless the material is disturbed and sparks appear. A straw broom may be useful to produce the disturbance. Explosion and Ignition Behavi -our of Carbon Black with air

Lower Limit for Explosion:	50 g/m3 (carbon black in air)
Maximum Explosion Pressure:	10 bar
Maximum Rate of Pressure Rise:	30- 100 bar/sec
Minimum Ignition Temperature:	315 deg. C.
Ignition Energy:	>1 kJ
Glow Temperature:	500 deg. C. (approx.)

Notes on Test Methods:
Tests 1, 2 and 3 were conducted by Bergwerkeschaftliche Versuchstrecke, Dortmunde-Derne, using a 1 m3 vessel with two chemical igniters having an intensity of 5000 W.S.Tests 1 and 2 results are confirme

-d by information in the Handbook of Powder Technology, Vol. 4 (P. Field) In Test 4, a modified Godbert-Greenwald furnace was used. See U.S. Bureau of Mines, Report 5624, 1960, p.5, "Lab Equipm -ent and Test Procedures". Test 5 used a 1 m3 vessel with chemical igniters of variable intensity.Test 6 was conducted in a laboratory oven. Active glowing appeared after 3 minutes exposure.(European Committee for Biological Effects of Carbon Black) (2/84).

FIRE INCOMPATIBILITY

Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

PERSONAL PROTECTION

Glasses:
Chemical goggles.
Gloves:
Respirator:
Particulate

6 ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

• Clean up waste regularly and abnormal spills immediately.
• Avoid breathing dust and contact with skin and eyes.
• Wear protective clothing, gloves, safety glasses and dust respirator.
• Use dry clean up procedures and avoid generating dust.
• Vacuum up or sweep up. NOTE: Vacuum cleaner must be fitted with an exhaust micro filter (HEPA type) (consider explosion-proof machines designed to be grounded during storage and use).
• Dampen with water to prevent dusting before sweeping.
• Place in suitable containers for disposal.

MAJOR SPILLS

Moderate hazard.
• CAUTION: Advise personnel in area.
• Alert Emergency Responders and tell them location and nature of hazard.
• Control personal contact by wearing protective clothing.
• Prevent, by any means available, spillage from entering drains or water courses.
• Recover product wherever possible.
• IF DRY: Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. IF WET: Vacuum/shovel up and place in labeled containers for disposal.
• ALWAYS: Wash area down with large amounts of water and prevent runoff into drains.
• If contamination of drains or waterways occurs, advise emergency services.

7 HANDLING AND STORAGE

PROCEDURE FOR HANDLING

• Avoid all personal contact, including inhalation.
• Wear protective clothing when risk of exposure occurs.
• Use in a well-ventilated area.
• Prevent concentration in hollows and sumps.
• DO NOT enter confined spaces until atmosphere has been checked.
• DO NOT allow material to contact humans, exposed food or food utensils.
• Avoid contact with incompatible materials.
• When handlings, do not eat, drink or smoke.

• Keep containers securely sealed when not in use.
• Avoid physical damage to containers.
• Always wash hands with soap and water after handling.
• Work clothes should be laundered separately.
• Launder contaminated clothing before re-use.
• Use good occupational work practice.
• Observe manufacturer's storing and handling recommendations.
• Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

RECOMMENDED STORAGE METHODS

• Polyethylene or polypropylene container.
• Check all containers are clearly labeled and free from leaks.

STORAGE REQUIREMENTS

• Store in original containers.
• Keep containers securely sealed.
• Store in a cool, dry, well-ventilated area.
• Store away from incompatible materials and foodstuff containers.
• Protect containers against physical damage and check regularly for leaks.
• Observe manufacturer's storing and handling recommendations.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS

+	X	+	X	X	+

+: may be stored together
X : must not be stored together

8 EXPOSURE CONTROL / PERSONAL PROTECTION

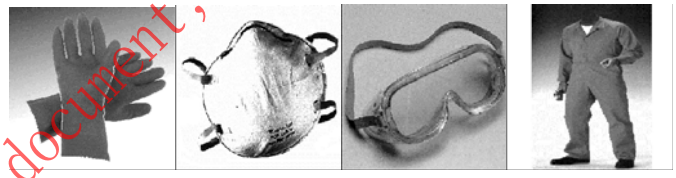
EMERGENCY EXPOSURE LIMITS

Material Revised IDLH Value (mg/m3) Revised IDLH Value (ppm) graphite 1, 250

MATERIAL DATA

Graphite pneumoconiosis resembles coal workers' pneumoconiosis. Data indicate that the higher the crystalline silica content of graphite the more likely the disease will increase in severity. The presence of anthracite coal in the production of some synthetic grades of graphite appears to make arbitrary the use of the term, "synthetic", "artificial" or "natural".

PERSONAL PROTECTION



EYE

• Safety glasses with side shields.
• Chemical goggles.
• Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them. Do not wear contact lenses.

HANDS/FEET

Experience indicates that the following polymers are suitable as glove materials for protection against

undissolved, dry solids, where abrasive particles are not present.
• polychloroprene
• nitrile rubber
• butyl rubber
• fluorocaoutchouc
• polyvinyl chloride
Gloves should be examined for wear and/ or degradation constantly. Suitability and durability of glove type is dependent on usage. Factors such as:
• frequency and duration of contact,
• chemical resistance of glove material,
• glove thickness and dexterity, are important in the selection of gloves.

OTHER
• Overalls.
• P.V.C. apron.
• Barrier cream.
• Skin cleansing cream.
• Eye wash unit.

ENGINEERING CONTROLS
• Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
• If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:
(a): particle dust respirators, if necessary, combined with an absorption cartridge;
(b): filter respirators with absorption cartridge or canister of the right type;
(c): fresh-air hoods or masks
Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE
Dark black, Solid

10 STABILITY AND REACTIVITY

CONDITIONS CONTRIBUTING TO INSTABILITY
• Presence of incompatible materials.
• Product is considered stable.
• Hazardous polymerization will not occur.
STORAGE INCOMPATIBILITY
Avoid oxidizing agents, reducing agents.
Reaction with finely divided metals, bromates, chlorates, chloramine monoxide, dichlorine oxide, iodated, metal nitrates, oxygen difluoride, peroxyformic acid, peroxyfuroic acid and trioxygen difluoride may result in an exotherm with ignition or explosion. Less active forms of carbon will ignite or explode on suitably intimate contact with oxygen, oxides, peroxides, oxosalts, halogens, interhalogens and other oxidizing species. Explosive reaction with ammonium nitrate, ammonium perchlorate, calcium hypochlorite and iodine pentoxide may occur following heating. Carbon may react violently with nitric acid and may be explosively reactive with nitrogen trifluoride at reduced temperatures. In the presence of nitrogen oxide, incandescence and ignition may occur. Finely divided or highly porous forms of carbon, exhibiting a high surface area to mass (up to 2000 m2/g) may function as unusually active fuels

possessing both adsorptive and catalytic properties which accelerate the release of energy in the presence of oxidizing substances. Dry metal-impregnated charcoal catalysts may generate sufficient static, during handling, to cause ignition. Graphite in contact with liquid potassium, rubidium or cesium at 300 deg. C. produces intercalation compounds (C8M) which ignite in air and may react explosively with water. The fusion of powdered diamond and potassium hydroxide may produce explosive decomposition. For incompatible materials - refer to Section 7 - Handling and Storage.

11 TOXICOLOGICAL INFORMATION

TOXICITY AND IRRITATION

No significant acute toxicological data identified in literature search.

12 ECOLOGICAL INFORMATION

No data

13 DISPOSAL CONSIDERATIONS

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

• Recycle wherever possible.

• Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

• Dispose of by: Burial in a licensed land-fill or Incineration in a licensed apparatus (after admixture with suitable combustible material)

• Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

14 TRANSPORT INFORATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: DOT, IATA, IMDG

15 REGULATORY INFORMATION

REGULATIONS

Canada - Alberta Occupational Exposure Limits

Canada - British Columbia Occupational Exposure Limits

Canada - Ontario Occupational Exposure Limits

Canada - Quebec Occupational Exposure Limits (French)

Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits

Canada Domestic Substances List (DSL)

Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS

US - Alaska Limits for Air Contaminants

US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List

US - California Permissible Exposure Limits for Chemical Contaminants

US - Hawaii Air Contaminant Limits

US - Idaho - Limits for Air Contaminants

US - Michigan Exposure Limits for Air Contaminants

US - Minnesota Hazardous Substance List

US - Minnesota Permissible Exposure Limits (PELs)

US - North Carolina Permissible Exposure Limits (PELs) for Air Contaminants

US - Oregon Permissible Exposure Limits (Z1)

US - Oregon Permissible Exposure Limits (Z3)

US - Pennsylvania - Hazardous Substance List

US - Rhode Island Hazardous Substance List
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
US - Washington Permissible exposure limits of air contaminants
US ACGIH Threshold Limit Values (TLV)
US DOE Temporary Emergency Exposure Limits (TEELs)
US NFPA 30B Manufacture and Storage of Aerosol Products - Chemical Heat of Combustion
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Levels (PELs) - Table Z1
US OSHA Permissible Exposure Levels (PELs) - Table Z3
US Toxic Substances Control Act (TSCA) - Inventory

16 OTHER INFORMATION

LIMITED EVIDENCE

Cumulative effects may result following exposure. May produce discomfort of the respiratory system. Classification of the mixture and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references. A list of reference resources used to assist the committee may be found at: www.chemwatch.net/references.

The MSDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following U.S. Regulations and Standards:

OSHA Standards - 29 CFR:
1910.132 - Personal Protective Equipment - General requirements
1910.133 - Eye and face protection
1910.134 - Respiratory Protection
1910.136 - Occupational foot protection
1910.138 - Hand Protection
Eye and face protection - ANSI Z87.1
Foot protection - ANSI Z41
Respirators must be NIOSH approved.

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the UTS(United Testing Services) Classification committee using available literature references.

The MSDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.