



MATERIAL SAFETY DATA SHEET

Date –Issued:03/16/2008

MSDS Ref.No:PSMSD-151-2

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1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3 in 1 CHAIN OIL CH151

GENERAL USE: Lubricating oil for bicycle chain lubrication. .

MANUFACTURER

LONG LUB-TEK CORPORATION

330-12 Sec.1 Zhong Zheng Rd. Sanxia Dist., New Taipei City TAIWAN.

Phone No.: 886-2-26742566

Fax No.: 886-2-26742730

2. PRODUCT FORMULATION NAME

Chemical Description: Lubricating oil formulation

Ingredient:

Ingredient	CAS #	Weight Percent
Synthetic Base Oil	64742-88-7	15-30
Petroleum Base Oil	64742-65-0	50-75
Performance additive	Mixture	12-18

3. HEALTH HAZARD/TOXICOLOGICAL INFORMATION

Eye Contact: Direct eye contact may cause eye irritation. This irritation is minimal and expected to be transient.

Skin Contact: This product has low skin irritation potential. There is no dermal toxicity hazard.

Inhalation (Breathing): No inhalation hazard expected with water vapor.

Ingestion (Swallowing): Based on ingredients, LD50 (rat) is estimated to be well over 50 g/kg.

Carcinogenic Status: This substance has not been identified as a carcinogen or probable carcinogen by NTP, IARC or OSHA, nor have any of its components.

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4. FIRE AND EXPLOSION HAZARD DATA

Flash Point: 100°C .

Flammable Class: Flammable

Extinguishing media: Carbon Dioxide, Foam, Dry chemical

Special Fire-fighting Procedures: Water may be used to cool containers exposed to heat.

Unusual Fire Hazards: Treat like petroleum fire.

5. HAZARDOUS INGREDIENTS

This product contains no reportable hazardous components under 29 CFR 1910.1200. There are no OSHA or ACGIH threshold limit values for the product or any of its ingredients.

All components are listed on the TSCA inventory.

6. HEALTH HAZARD DATA

Eye Irritation	(Rabbits)	Corrosive to the Eye
Skin Irritation	(Rabbits)	Non Primary Skin Irritant
DOT Skin Corrosion	(Rabbits)	Non-Corrosive: Non Primary Skin Irritant
Acute Dermal Toxicity	(Rabbits)	LD ₅₀ >20.000mg/Kg
Acute Inhalation	(Rats)	LC ₅₀ >18mg/l
Acute Oral Toxicity	(Rats)	LD ₅₀ >5.000mg/Kg
Skin Sensitivity	(Guinea Pigs)	Buehler – Minimal contact sensitizer

7. EMERGENCY AND FIRST AID PROCEDURE

EYES: Wash eyes with clean flowing water for two or three minutes. Remove any contact lenses and continue flushing for 15 minutes. If irritation occurs or persists, get medical attention.

SKIN: Remove contaminated clothing including shoes and wash affected area with soap and water. Wash contaminated clothing and shoes before reuse.

INGESTION: Induce vomiting, wash out mouth with water and keep at rest. Seek immediate medical attention.

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8. SPILL OR LEAK PROCEDURE

Small Amounts: Add oil adsorbent, shovel up and place in closed containers for disposal.

Large Amounts: Dike to container and pump into drums for use or disposal.

9. DISPOSAL METHODS

Not a hazardous waste under RCRA (40CFR 261). Dispose of in the manner prescribed in Federal, State and Local regulations.

10. TYPICAL PHYSICAL AND CHEMICAL CHARACTERISTICS

Appearance: Clear liquid

Color: Yellow

Odor: Mild

Specific Gravity : 0.805

Flash Point: 100°C

Decompose Temperature: >300°C

11. SPECIAL PROTECTION INFORMATION

Eye Protection: Wear safety goggles.

Protective Gloves: Wear oil impervious gloves.

Respiratory: If misting occurs, use NIOSH approved respirator for oil mist
Provide general, mechanical ventilation.

Keep away from children, infants, and pets.

12. REACTIVITY DATA

Stability: Stable

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition.

Incompatibilities: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

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13. HANDLING AND STORAGE

Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use with adequate ventilation. Keep away from heat, sparks, hot surfaces and open flames. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children.

Storage: Store in a cool, well-ventilated area, away from incompatible materials. NFPA 30 Class III Liquid.

14. TRANSPORTATION INFORMATION

DOT Class: Not regulated
DOT Number; UN #: Not Applicable
RCRA Status: Material is not a hazardous waste under RCRA (40 CFR 261)

NTP, IARC and OSHA: Not listed as a carcinogen.

U.S. TSCA, EEC EINECS, Japan MITI, Canada DSL, Australia AICS:

All components are listed or in compliance with current regulations.

SARA Title III Section 313 Supplier Notification:

This product does not contain 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.

15. OTHER INFORMATION

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication.

Revision Date 22.04.2009

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

WD-40 BULK LIQUID

SYNONYMS

PROPER SHIPPING NAME

PETROLEUM PRODUCTS, N.O.S.

(contains Naphtha)

PRODUCT USE

The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation. Used to repel moisture, prevent corrosion, clean and lubricate.

SUPPLIER

Company: WD- 40 Company

Address:

41 Rawson Street

Epping

NSW, 2121

AUS

Telephone: +61 2 9868 2200

Fax: +61 2 9869 7512

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

POISONS SCHEDULE

None

RISK SAFETY

Flammable. Do not breathe gas/ fumes/ vapour/ spray.

HARMFUL - May cause lung damage if swallowed. Wear suitable protective clothing.

Repeated exposure may cause skin dryness and Use only in well ventilated areas. cracking.

Vapours may cause drowsiness and dizziness. Keep container in a well ventilated place.

To clean the floor and all objects contaminated by this material use water and detergent.

Keep container tightly closed.

Keep away from food drink and animal feeding stuffs.

Take off immediately all contaminated clothing.

If swallowed IMMEDIATELY contact Doctor or Poisons Information Centre (show this container or label).

This material and its container must be disposed

continued...

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Section 2 - HAZARDS IDENTIFICATION

of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME CAS RN %

naphtha petroleum, heavy, hydrotreated 64742-48-9. 67

paraffinic distillate, heavy, solvent- dewaxed (severe) 64742-65-0. 21

ingredient(s) determined not to be hazardous <20

Section 4 - FIRST AID MEASURES

SWALLOWED

- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

Avoid giving milk or oils.

Avoid giving alcohol.

If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

EYE

If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- If pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- 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.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration
continued...

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Section 4 - FIRST AID MEASURES

into the lungs may be delayed up to 48 hours.

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO₂ 50 mm Hg) should be intubated.
- Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.

- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology].

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- If safe, switch off electrical equipment until vapour fire hazard removed.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- 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.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 500 metres in all directions.

FIRE/EXPLOSION HAZARD

- Liquid and vapour are flammable.
- Moderate fire hazard when exposed to heat or flame.
- Vapour forms an explosive mixture with air.
- Moderate explosion hazard when exposed to heat or flame.
- Vapour may travel a considerable distance to source of ignition.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).

Combustion products include: carbon dioxide (CO₂), phosphorus oxides (PO_x), sulfur oxides (SO_x), other pyrolysis products typical of burning

organic material.

Contains low boiling substance: Closed containers may rupture due to pressure

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Section 5 - FIRE FIGHTING MEASURES

buildup under fire conditions.

FIRE INCOMPATIBILITY

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

HAZCHEM: 3[Y]

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb small quantities with vermiculite or other absorbent material.
- Wipe up.
- Collect residues in a flammable waste container.

MAJOR SPILLS

Chemical Class: aliphatic hydrocarbons

For release onto land: recommended sorbents listed in order of priority.

SORBENT TYPE RANK APPLICATION COLLECTION LIMITATIONS

LAND SPILL - SMALL

cross- linked 1 shovel shovel R, W, SS

polymer -

particulate

cross- linked 1 throw pitchfork R, DGC, RT

polymer - pillow

wood fiber - 2 throw pitchfork R, P, DGC, RT

pillow

treated wood 2 throw pitchfork DGC, RT

fibre- pillow
sorbent clay - 3 shovel shovel R, I, P
particulate
foamed glass - 3 throw pitchfork R, P, DGC, RT
pillow
LAND SPILL - MEDIUM
cross- linked 1 blower skiploader R, W, SS
polymer -
particulate
cross- linked 2 throw skiploader R, DGC, RT
continued...

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Section 6 - ACCIDENTAL RELEASE MEASURES

polymer - pillow
sorbent clay - 3 blower skiploader R, I, P
particulate
polypropylene - 3 blower skiploader W, SS, DGC
particulate
expanded mineral - 4 blower skiploader R, I, W, P, DGC
particulate
polypropylene - 4 throw skiploader DGC, RT
mat

Legend

DGC: Not effective where ground cover is dense

R; Not reusable

I: Not incinerable

P: Effectiveness reduced when rainy

RT:Not effective where terrain is rugged

SS: Not for use within environmentally sensitive sites

W: Effectiveness reduced when windy

Reference: Sorbents for Liquid Hazardous Substance Cleanup and Control;

R.W Melvold et al: Pollution Technology Review No. 150: Noyes Data Corporation 1988.

· Clear area of personnel and move upwind.

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Water spray or fog may be used to disperse / absorb vapour.
- Contain spill with sand, earth or vermiculite.
- Use only spark-free shovels and explosion proof equipment.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise emergency services.

PROTECTIVE ACTIONS FOR SPILL

isolation down wind distance

distance

PROTECTIVE ACTION ZONE

evacuation

direction

evacuation

direction

half

downwind

distance

half

downwind

distance

INITIAL

ISOLATION

ZONE

wind

direction

From IERG (Canada/Australia)

Isolation Distance 25 metres

Downwind Protection Distance 300 metres

continued...

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Section 6 - ACCIDENTAL RELEASE MEASURES

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FOOTNOTES

1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapour plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.

2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapour concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or irreversible health effects.

3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localised wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.

4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered "small spills".

LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as a cargo tank, portable tank or a "one-tonne" compressed gas cylinder.

5 Guide 128 is taken from the US DOT emergency response guide book.

6 IERG information is derived from CANUTEC - Transport Canada.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Containers, even those that have been emptied, may contain explosive vapours.
- Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
- Electrostatic discharge may be generated during pumping - this may result in fire.
- Ensure electrical continuity by bonding and grounding (earthing) all equipment.
- Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec).
- Avoid splash filling.
- Do NOT use compressed air for filling discharging or handling operations.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights or ignition sources.
- Avoid generation of static electricity.
- DO NOT use plastic buckets.
- Earth all lines and equipment.
- Use spark-free tools when handling.
- Avoid contact with incompatible materials.
- When handling, 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.
- 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.

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Section 7 - HANDLING AND STORAGE

SUITABLE CONTAINER

- Packing as supplied by manufacturer.
- Plastic containers may only be used if approved for flammable liquid.
- Check that containers are clearly labelled and free from leaks.
- For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.
- For materials with a viscosity of at least 2680 cSt. (23 deg. C)
- For manufactured product having a viscosity of at least 250 cSt. (23 deg. C)
- Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C)
 - (i) : Removable head packaging;
 - (ii) : Cans with friction closures and
 - (iii) : low pressure tubes and cartridges may be used.
- Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages
- In addition, where inner packagings are glass and contain liquids of packing group I there must be sufficient inert absorbent to absorb any spillage, unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.

STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents.

STORAGE REQUIREMENTS

- Store in original containers in approved flammable liquid storage area.
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- No smoking, naked lights, heat or ignition sources.
- Keep containers securely sealed.
- Store away from incompatible materials in a cool, dry, well-ventilated area.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source Material TWA mg/m³

solvent- dewaxed (severe) (Oil mist, refined mineral)

The following materials had no OELs on our records

- naphtha petroleum, heavy, hydrotreated: CAS:64742- 48- 9

MATERIAL DATA

Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no-observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling **continued...**

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five-category system based on intensive odour, local irritation, and elimination half-life.

However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.

OSHA (USA) concluded that exposure to sensory irritants can:

- cause inflammation
- cause increased susceptibility to other irritants and infectious agents
- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and
- acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

INGREDIENT DATA

NAPHTHA PETROLEUM, HEAVY, HYDROTREATED:

PARAFFINIC DISTILLATE, HEAVY, SOLVENT-DEWAXED (SEVERE):

Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no-observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five-category system based on intensive odour, local irritation, and elimination half-life. However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.

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- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and
- acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

NAPHTHA PETROLEUM, HEAVY, HYDROTREATED:

REL TWA: 300 ppm [EXXON]

as VM & P naphtha

TLV TWA: 300 ppm, 1370 mg/m³

PARAFFINIC DISTILLATE, HEAVY, SOLVENT-DEWAXED (SEVERE):

NOTE L: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346. European Union (EU)

List of Dangerous Substances (Annex I) - up to the 29th ATP.

Human exposure to oil mist alone has not been demonstrated to cause health effects except at levels above 5 mg/m³ (this applies to particulates sampled by a method that does not collect vapour). It is not advisable to apply this standard to oils containing unknown concentrations and types of additive.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTION

EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. Rubber.

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.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Ensure there is ready access to a safety shower.

RESPIRATOR

Respiratory protection may be required when ANY "Worst Case" vapour-phase

concentration

is exceeded (see Computer Prediction in "Exposure Standards")

Protection Factor (Min) Half- Face Respirator Full- Face Respirator

10 x ES Air- line* A- P- - 2

- A- P- - PAPR- 2

20 x ES - A- P- - 3

20+ x ES - Air- line**

* - Continuous-flow; ** - Continuous-flow or positive pressure demand

^ - Full-face.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

For further information consult site specific

CHEMWATCH data (if available), or your

Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion -resistant.

continued...

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Cloudy light amber flammable liquid with a characteristic odour; not miscible with water

PHYSICAL PROPERTIES

Does not mix with water.

Floats on water.

Molecular Weight: Not applicable. Boiling Range (°C): 148 m in.

Melting Range (°C): Not available. Specific Gravity (water =1): 0.817 @ 21 C.

Solubility in water (g/L): Immiscible pH (as supplied): Not applicable

pH (1% solution): Not applicable Vapour Pressure (kPa): Not available.

Volatile Component (%vol): 78 Evaporation Rate: Not Available

Relative Vapour Density (air=1): >1 Flash Point (°C): >23

Lower Explosive Limit (%): Not Available Upper Explosive Limit (%): Not Available

Autoignition Temp (°C): Not available. Decomposition Temp (°C): Not Available

State: LIQUID Viscosity: Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733).

Accidental ingestion of the material may be damaging to the health of the individual.

Ingestion of petroleum hydrocarbons can irritate the pharynx, oesophagus, stomach and small intestine, and cause swellings and ulcers of the mucous. Symptoms include a burning mouth and throat; larger amounts can cause nausea and vomiting, narcosis, weakness, dizziness, slow and shallow breathing, abdominal swelling, unconsciousness and convulsions. Damage to the heart muscle can produce heart beat irregularities, ventricular fibrillation (fatal) and ECG changes. The central nervous system can be depressed. Light species can cause a sharp tingling of the tongue and cause loss of sensation there. Aspiration can cause cough, gagging, pneumonia with swelling and bleeding.

Isoparaffinic hydrocarbons cause temporary lethargy, weakness, inco-ordination and diarrhoea.

EYE

There is some evidence to suggest that this material can cause eye irritation and damage in some persons.

Direct eye contact with petroleum hydrocarbons can be painful, and the corneal epithelium may be temporarily damaged. Aromatic species can cause irritation and excessive tear secretion.

continued...

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Section 11 - TOXICOLOGICAL INFORMATION

SKIN

Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.

Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.

The material may accentuate any pre-existing dermatitis condition.

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.

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. Inhalation hazard is increased at higher temperatures.

If exposure to highly concentrated solvent atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and possible death.

Nerve damage can be caused by some non-ring hydrocarbons. Symptoms are temporary, and

include weakness, tremors, increased saliva, some convulsions, excessive tears with discolouration and inco-ordination lasting up to 24 hours.

Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

CHRONIC HEALTH EFFECTS

There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.

Substance accumulation, in the human body, may occur and may cause some concern following

repeated or long-term occupational exposure.

Chronic solvent inhalation exposures may result in nervous system impairment and liver and blood changes. [PATTYS].

Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin. Chronic exposure to lighter hydrocarbons can cause nerve damage, peripheral neuropathy, bone marrow dysfunction and psychiatric disorders as well as damage the liver and kidneys.

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

NAPHTHA PETROLEUM, HEAVY, HYDROTREATED:

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY IRRITATION

Inhalation (rat) LC50: 3400 ppm/4h None reported

Dermal (rat) LD50: >4000 mg/kg [EXXON]

Dermal (rat) LC50: >11 mg/l [CCINFO- Shell]

Oral (rat) LD50: >8000 mg/kg

PARAFFINIC DISTILLATE, HEAVY, SOLVENT-DEWAXED (SEVERE):

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

No data of toxicological significance identified in literature search.

The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

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Section 12 - ECOLOGICAL INFORMATION

The lower molecular weight hydrocarbons are expected to form a "slick" on the surface of waters after release in calm sea conditions. This is expected to evaporate and enter the atmosphere where it will be degraded through reaction with hydroxy radicals.

Some of the material will become associated with benthic sediments, and it is likely to be spread over a fairly wide area of sea floor. Marine sediments may be either aerobic or anaerobic. The material, in probability, is biodegradable, under aerobic conditions (isomerised olefins and alkenes show variable results). Evidence also suggests that the hydrocarbons may be degradable under anaerobic conditions although such degradation in benthic sediments may be a relatively slow process.

Under aerobic conditions the material will degrade to water and carbon dioxide, while under anaerobic processes it will produce water, methane and carbon dioxide.

Based on test results, as well as theoretical considerations, the potential for bioaccumulation may be high. Toxic effects are often observed in species such as blue mussel, daphnia, freshwater green algae, marine copepods and amphipods.

Drinking Water Standards:

hydrocarbon total: 10 ug/l (UK max.).

DO NOT discharge into sewer or waterways.

Refer to data for ingredients, which follows:

NAPHTHA PETROLEUM, HEAVY, HYDROTREATED:

The lower molecular weight hydrocarbons are expected to form a "slick" on the surface of waters after release in calm sea conditions. This is expected to evaporate and enter the atmosphere where it will be degraded through reaction with hydroxy radicals.

Some of the material will become associated with benthic sediments, and it is likely to be spread over a fairly wide area of sea floor. Marine sediments may be either aerobic or anaerobic. The material, in probability, is biodegradable, under aerobic conditions (isomerised olefins and alkenes show variable results). Evidence also suggests that the hydrocarbons may be degradable under anaerobic conditions although such degradation in benthic sediments may be a relatively slow process.

Under aerobic conditions the material will degrade to water and carbon dioxide, while under anaerobic processes it will produce water, methane and carbon dioxide.

Based on test results, as well as theoretical considerations, the potential for bioaccumulation may be high. Toxic effects are often observed in species such as blue mussel, daphnia, freshwater green algae, marine copepods and amphipods.

Drinking Water Standards:

hydrocarbon total: 10 ug/l (UK max.).

DO NOT discharge into sewer or waterways.

PARAFFINIC DISTILLATE, HEAVY, SOLVENT-DEWAXED (SEVERE):

DO NOT discharge into sewer or waterways.

Section 13 - DISPOSAL CONSIDERATIONS

DO NOT allow wash water from cleaning or process equipment to enter drains.

It may be necessary to collect all wash water for treatment before disposal.

In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste

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Section 13 - DISPOSAL CONSIDERATIONS

management authority for disposal if no suitable treatment or disposal facility can be identified.

- Dispose of by: Burial in a licenced land-fill or Incineration in a licenced apparatus (after admixture with suitable combustible material).
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Section 14 - TRANSPORTATION INFORMATION

Labels Required: FLAMMABLE LIQUID

HAZCHEM: 3[Y]

UNDG:

Dangerous Goods Class: 3 Subrisk: None

UN Number: 1268 Packing Group: III

Shipping Name: PETROLEUM PRODUCTS, N.O.S.
(contains Naphtha)

Air Transport IATA:

ICAO/IATA Class: 3 ICAO/IATA Subrisk: None

UN/ID Number: 1268 Packing Group: III

Special provisions: A3

Shipping Name: PETROLEUM DISTILLATES N.O.S.

Maritime Transport IMDG:

IMDG Class: 3 IMDG Subrisk: None

UN Number: 1268 Packing Group: III

EMS Number: F- E, S- E Special provisions: 223 944 955

Shipping Name: PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE: None

REGULATIONS

WD-40 Bulk Liquid (CAS: None):

No regulations applicable

naphtha petroleum, heavy, hydrotreated (CAS: 64742-48-9) is found on the following regulatory lists;

Australia High Volume Industrial Chemical List (HVICL)

Australia Inventory of Chemical Substances (AICS)

International Council of Chemical Associations (ICCA) - High Production Volume List

OECD Representative List of High Production Volume (HPV) Chemicals

paraffinic distillate, heavy, solvent-dewaxed (severe) (CAS: 64742-65-0) is found on the following regulatory lists;

Australia Exposure Standards

Australia High Volume Industrial Chemical List (HVICL)

Australia Inventory of Chemical Substances (AICS)

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Section 16 - OTHER INFORMATION

EXPOSURE STANDARD FOR MIXTURES

"Worst Case" computer-aided prediction of vapour components/concentrations:

Composite Exposure Standard for Mixture (TWA) (mg/m³): 1370 mg/m³

If the breathing zone concentration of ANY of the components listed below is exceeded,

"Worst Case" considerations deem the individual to be overexposed.

Component Breathing Zone ppm Breathing Zone mg/m³ Mixture Conc: (%).

Component Breathing zone Breathing Zone Mixture Conc

(ppm) (mg/m³) (%)

naphtha petroleum, heavy, hydrotreated 300.00 1370.0000 67.0

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded,

"Worst Case" considerations deem the individual to be overexposed.

At the "Composite Exposure Standard for Mixture" (TWA) (mg/m³): 1370 mg/m³

Classification of the preparation 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 (M)SDS 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.

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