

3-IN-ONE LITHIUM GREASE

ChemWatch Material Safety Data Sheet

Issue Date: Thu 17-Apr-2003

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IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS ACCORDING TO WORKSAFE AUSTRALIA CRITERIA.

SUPPLIER

Company: WD-40 Company (Australia P/L)

Address: 41 Rawson Street

Epping

NSW 2121

Australia

Telephone: +61 2 9868 2200

Fax: +61 2 9869 7512



Product Name:	3-in-One Lithium Grease
CAS RN No(s):	None
UN Number:	1950
Packing Group:	None
Dangerous Goods Class:	2.1
Subsidiary Risk:	None
Hazchem Code:	2Y
Poisons Schedule Number:	None

USE

Lithium grease.

Application is by spray atomisation from a hand held aerosol pack

PHYSICAL DESCRIPTION/PROPERTIES

APPEARANCE

Off white liquid with a petroleum odour; does not mix with water.

Supplied as an aerosol pack. Contents under PRESSURE. Contains highly flammable hydrocarbon propellant.

Boiling Point (°C):	Not available
Melting Point (°C):	Not available
Vapour Pressure (kPa):	Not available
Specific Gravity:	0.84
Flash Point (°C):	-28.89
Lower Explosive Limit (%):	1.8
Upper Explosive Limit (%):	9.5

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IDENTIFICATION...

Solubility in Water (g/L): Immiscible

INGREDIENTS

NAME	CAS RN	%
solvent naphtha petroleum, medium aliphatic	64742-88-7	20-40
lithium grease		15-25
fragrance		<1
hydrocarbon propellant	68476-85-7.	40-50

NOTE: Manufacturer has supplied full ingredient information to allow CHEMWATCH assessment.

HEALTH HAZARD

ACUTE HEALTH EFFECTS

SWALLOWED

The liquid is discomforting to the gastro-intestinal tract and may be harmful if swallowed

Ingestion may result in nausea, pain, vomiting. Vomit entering the lungs by aspiration may cause potentially lethal chemical pneumonitis.

Considered an unlikely route of entry in commercial/industrial environments

EYE

The mist is highly discomforting to the eyes if exposure is prolonged and is capable of causing pain and severe conjunctivitis. Corneal injury may develop, with possible permanent impairment of vision, if not promptly and adequately treated

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

SKIN

The liquid is discomforting to the skin and is capable of causing skin reactions which may lead to dermatitis

Toxic effects may result from skin absorption

The material may accentuate any pre-existing skin condition

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

INHALED

The vapour/mist is discomforting to the upper respiratory tract

Inhalation hazard is increased at higher temperatures.

Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.

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HEALTH HAZARD...

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

WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.

CHRONIC HEALTH EFFECTS

Principal routes of exposure are usually by skin contact and inhalation of vapour/spray mist

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

Prolonged or continuous skin contact with the liquid may cause defatting with drying, cracking, irritation and dermatitis following.

WARNING: Aerosol containers may present pressure related hazards.

FIRST AID

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.

EYE

If this product comes in contact with the eyes:

Immediately hold eyelids apart and flush the eye continuously with 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.

Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

Transport to hospital or doctor without delay.

Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If solids or aerosol mists are deposited upon the skin:

Flush skin and hair with running water (and soap if available).

Remove any adhering solids with industrial skin cleansing cream.

DO NOT use solvents.

Seek medical attention in the event of irritation.

INHALED

If fumes or combustion products are inhaled remove from contaminated area.

Lay patient down. Keep warm and rested.

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HEALTH HAZARD...

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.

ADVICE TO DOCTOR

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]

PRECAUTIONS FOR USE

EXPOSURE STANDARDS

None assigned. Refer to individual constituents.

INGREDIENT DATA

SOLVENT NAPHTHAPETROLEUM, MEDIUMALIPHATIC:

TLV TWA: 300 ppm A3 [ACGIH]

CEL TWA: 100 ppm, 525 mg/m³

[Manufacturer]

as VM& P Naphtha (petroleum ether) (CAS RN: 8032-32-4)

TLV TWA: 300 ppm, A3

Naphthas of this type produce central nervous system depression and are mild irritants of the eyes and upper respiratory tract. The carcinogenic potential of middle petroleum distillates is recognised and is related to the content of

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PRECAUTIONS FOR USE...

polynuclear aromatic hydrocarbons (PAHs). The TLV is thought to be protective against the acute effects of upper respiratory tract and eye irritation and chronic systemic effects.

CAUTION: This substance has been classified by the ACGIH as A3 Animal carcinogen (at relatively high doses) for petroleum distillates:

CEL TWA: 500 ppm, 2000 mg/m³ (compare OSHATWA)

HYDROCARBON PROPELLANT:

hydrocarbon propellant, as liquified petroleum gas

TLV TWA: 1000 ppm, 1800 mg/m³

ES TWA: 1000 ppm, 1800 mg/m³

OES TWA: 1000 ppm, 1750 mg/m³; STEL: 1250 ppm, 2180 mg/m³

ENGINEERING CONTROLS

General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. 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.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air)	0.25-0.5 m/s (50-100 f/min)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use

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4: Large hood or large air mass in motion

4: Small hood -local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

PERSONAL PROTECTION

EYE

Safety glasses with side shields; or as required, Chemical goggles. Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET

No special equipment needed when handling small quantities.

OTHERWISE: Wear general protective gloves, eg. light weight rubber gloves. Or as required: Wear chemical protective gloves, eg. PVC. Wear safety footwear.

OTHER

No special equipment needed when handling small quantities.

OTHERWISE:

Overalls.

Skin cleansing cream.

Eyewash unit.

Do not spray on hot surfaces.

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-2
	-	A-PAPR-2
20 x ES	-	A-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

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PRECAUTIONS FOR USE...

the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

SAFE HANDLING

STORAGE AND TRANSPORT

SUITABLE CONTAINER

Aerosol dispenser. Check that containers are clearly labelled.

STORAGE INCOMPATIBILITY

Avoid storage with oxidisers

STORAGE REQUIREMENTS

Store in original containers in approved flame-proof 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. Contents under pressure.
Store away from incompatible materials.
Store in a cool, dry, well ventilated area in an upright position.
Avoid storage at temperatures higher than 40 deg C.
Protect containers against physical damage and check regularly for leaks.
Observe manufacturer's storing and handling recommendations.

TRANSPORTATION

Class 2.1 - Flammable gases shall not be loaded in the same vehicle or packed in the same freight container with:
Class 1 - Explosives;
Class 3 - Flammable liquids (where both flammable liquids and flammable gases are in bulk);
Class 4.1 - Flammable solids;
Class 4.2 - Spontaneously combustible substances;
Class 4.3 - Dangerous when wet substances;
Class 5.1 - Oxidising agents;
Class 5.2 - Organic peroxides;
Class 7 - Radioactive substances.

SPILLS AND DISPOSAL

MINOR SPILLS

Clean up all spills immediately.
Avoid breathing vapours and contact with skin and eyes.
Wear protective clothing, impervious gloves and safety glasses.
Shut off all possible sources of ignition and increase ventilation.
Wipe up.
If safe, damaged cans should be placed in a container outdoors, away from all

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SAFE HANDLING...

ignition sources, until pressure has dissipated.
Undamaged cans should be gathered and stowed safely.

MAJOR SPILLS

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 courses
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.
Absorb or cover spill with sand, earth, inert materials or vermiculite.
If safe, damaged cans should be placed in a container outdoors, away from
ignition sources, until pressure has dissipated.
Undamaged cans should be gathered and stowed safely.
Collect residues and seal in labelled drums for disposal.

DISPOSAL

Consult State Land Waste Management Authority for disposal.
Discharge contents of damaged aerosol cans at an approved site.
Allow small quantities to evaporate.
DO NOT incinerate or puncture aerosol cans.
Bury residues and emptied aerosol cans at an approved site.

FIRE FIGHTERS' REPORT

EXTINGUISHING MEDIA

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

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.
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.
When any large container (including road and rail tankers) is involved in a fire,
consider evacuation by 100 metres in all directions.

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SAFE HANDLING...

FIRE/EXPLOSION HAZARD

Liquid and vapour are highly flammable.
Severe fire hazard when exposed to heat or flame.
Vapour forms an explosive mixture with air.
Severe explosion hazard, in the form of vapour, when exposed to flame or spark.
Vapour may travel a considerable distance to source of ignition.
Heating may cause expansion or decomposition with violent container rupture.
Aerosol cans may explode on exposure to naked flames.
Rupturing containers may rocket and scatter burning materials.
Hazards may not be restricted to pressure effects.
May emit acrid, poisonous or corrosive fumes.
On combustion, may emit toxic fumes of carbon monoxide (CO).
Other combustion products include carbon dioxide (CO₂)

FIRE INCOMPATIBILITY

Avoid contamination with strong oxidising agents as ignition may result

HAZCHEM

2Y

CONTACT POINT

COMPANYCONTACT

+61 2 9868 2200

AUSTRALIAN POISONS INFORMATION CENTRE

24 HOUR SERVICE: 13 11 26

POLICE, FIRE BRIGADE OR AMBULANCE: 000

NEW ZEALAND POISONS INFORMATION CENTRE

24 HOUR SERVICE: (03) 4747 000

NZ EMERGENCYSERVICES: 111

End of Report

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