Established in 1981
megaloid laboratories limited
2221 Ninth Line | Oakville, ON L6H 7G7
Phone: 905-337-7411 | Fax: 905-337-1686
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Material Safety Data for: Mineral Spirits

1. PRODUCT INDENTIFICATION

Name	**hydrotreated light petroleum distillate**
Synonyms	**mineral spirits, white spirits, stoddart solvent, vanishing oil, aliphatic naphtha**
CAS#	**64742-47-8; alternates: 64742-88-7, 8052-41-3, 64475-85-0**
Europe EC #	**265-149-8**
Product Uses	**solvent, diluent, fuel**

2. INGREDIENTS

	%	TWAEV / TLV mg/m^3	LD_{50} ORAL	(mg/kg) SKIN	LC_{50} ppm INHALATION
Solvent naphtha, medium, aliphatic	100%	100 / 610	>5500	>3000	>3400

3. (a) HAZARDS SUMMARY

Hazards, Quick Guide: flammable liquid, heavy vapour may travel, distant ignition and flashback are possible

Canada – WHMIS	**B 3**
Key:	***B 2*** *– Flash Point <38°C,* ***B 3*** *– Flash Point >38°C & <93°C* ***D 1*** *– Immediately Toxic,* ***D 2*** *– Chronic Toxicity* ***C*** *– Oxidising Substance,* ***E*** *– Corrosive*
U.S.A. – HMIS	**Health – 1, Fire – 2, Reactivity – 0**
Key:	***0****=minimal,* ***1****=slight,* ***2****=moderate,* ***3****=serious,* ***4****=severe*

3. (b) HAZARDS – TOXICITY

Effects, Acute Exposure

Skin Contact	little immediate effect; may be mildly irritating
Skin Absorption	slight; no toxic effects by this route
Eye Contact	liquid slightly irritating; some reports suggest that vapour irritating above 150ppm
Inhalation	400ppm+ may cause burning sensation in nose & throat, intoxication dizziness, fatigue
Ingestion	may cause diarrhoea & stomach discomfort – not a route of industrial exposure

Effects, Chronic Exposure

General	prolonged or repeated contact may cause dermatitis & skin cracking; chronic exposure to vapour may cause tingling, numbness, memory loss
Sensitising	not a sensitiser in humans or animals
Carcinogen/Tumorigen	not considered a tumorigen or a carcinogen in humans or animals
Reproductive Effect	no known effect in humans or animals
Mutagen	no known effect on humans or animals
Synergistic With	not known
LD_{50} (oral)	5500-34,600mg/kg (rat)
LD_{50} (skin)	3000-15,400mg/kg (rabbit)
LC_{50} (inhalation)	3400-8000ppm (rat)

Please ensure that this MSDS is given to, and explained to people using this product.

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4. FIRST AID

SKIN: Wash with soap and plenty of water. Remove contaminated clothing and do not reuse until thoroughly cleaned or laundered.

EYES: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.

INHALATION: Remove from contaminated area promptly. ***CAUTION: Rescuer must not endanger himself!*** If breathing stops, administer artificial respiration and seek medical aid promptly.

INGESTION: Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.

Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity substance. The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs.

5. PHYSICAL PROPERTIES

Odour & Appearance	clear, colourless liquid with kerosene odour
Odour Threshold	~1ppm
Vapour Pressure	2.3mmHg / 0.3kPa (20°C / 68°F)
Evaporation Rate (*Butyl Acetate = 1*)	0.1
Vapour Density (air = 1)	5
Boiling Range	155-205°C / 310-400°F
Freezing Point	-70°C / -94°F
Specific Gravity	0.78 (20/20°C)
Water Solubility	nil
Also soluble in	hydrocarbons and other non-polar solvents; nearly insoluble in methanol
Viscosity	1.5centistokes (25°C / 77°F)
pH	none – (*does not liberate hydrogen ions when dissolved*)
Conversion Factor	1ppm = 6mg/m^3 (estimated from average molecular weight)
Molecular Weight	150grams per mole (average molecular weight)
	The physical properties of this petroleum distillate may vary.

6. FLAMMABILITY & FIRE FIGHTING

Flash Point	above 38°C / 100°F (closed cup) – *mineral spirits is specifically formulated to exceed this*
Autoignition Temperature	229°C / 444°F
Flammable Limits	0.9% – 6%
Combustion Products	carbon monoxide, nitrogen oxides, smoke, part oxidised hydrocarbon fragments
Fire Fighting Precautions	foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water – water jet spreads flames; fire fighters must wear SCBA
Static Charge Accumulation	readily accumulates a static charge on agitation or pumping; however, the flash point is high enough that this presents no risk except in very hot locations

7. STABILITY / REACTIVITY

Dangerously Reactive With	strong oxidising agents
Also Reactive With	none known
Stability	stable; will not polymerize
Decomposes in Presence of	thermal decomposition may occur above 200°C / 390°F, spontaneous combustion may occur at ambient temperature – see Part 9, Note
Decomposition Products	none apart from Hazardous Combustion Products
Sensitive to Mechanical Impact	no

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8. PROTECTIVE EQUIPMENT / EXPOSURE CONTROL

TWAEV / TLV	100ppm / 525mg/m^3 (ACGIH)
STEL	500ppm / 2900mg/m^3 (OSHA)
Ventilation	mechanical ventilation is probably not required, unless product is handled hot
Hands	nitrile or "Viton" gloves recommended – *other types may also protect; consult supplier to confirm suitability*
Eyes	safety glasses with side shields – *always protect the eyes*
Clothing	wear impermeable (above) apron, boots, & long sleeves if there is any danger of splashing

9. HANDLING & STORAGE

Store in a cool, dry environment, away from sources of ignition, heat and oxidising agents. Non-sparking bronze or aluminium hand tools are recommended – *required if the product is handled at above (38°C)*. Electrical & mechanical equipment (including lighting, switchgear and forklift trucks) used with or around this product should be explosion-proof.

This product creates and retains a static charge on agitation or transfer from one container to another. It is prudent to electrically bond the source container, receiving container and transfer pump before transferring contents. (*This does not apply to a transfer of <10 litres.*) Avoid splashing. Keep product nozzle is below the surface in the receiving container. Empty containers may contain a flammable / explosive vapour. Ensure that containers, whether empty or full, are tightly sealed unless in use.

Avoid breathing product vapour. Use with adequate ventilation. If dealing with a spill, and ventilation is impossible or impractical, wear a respirator with an organic vapour cartridge.

Never cut, drill, weld or grind on or near this container. Avoid contact with skin and wash work clothes frequently. An eye bath and safety shower must be available near the workplace.

NOTE: *Under certain circumstances, absorbent materials soaked in this product and heaped in a corner can undergo spontaneous combustion. Always dry used absorbent materials thoroughly before discarding.*

10. SPILL PROCEDURES

Summer Fire Potential: above 38°C / 100°F, blanket spill with foam as a precaution against accidental ignition. Take care to avoid sparks – do not operate (turn on OR off) electrical appliances near spill, unless explosion proof.

Leak Precaution	dyke to control spillage and prevent environmental contamination
Handling Spill	ventilate contaminated area; recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep & pick up using plastic or aluminium shovel, & store in closed containers for recycling or disposal

11. DISPOSAL

Waste Disposal	**do not flush to sewer**, recycle solvent if possible, may be incinerated in approved facility
Containers	**Drums** should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use. **Pails** must be vented and thoroughly dried prior to crushing and recycling. **IBCs** (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5yrs). Steel containers must be inspected, pressure tested & recertified every 5 years. ***Never cut, drill, weld or grind on or near this container, even if empty***

12. ENVIRONMENTAL INFORMATION

Bioaccumulation	this product is not a bioaccumulator
Biodegradation	degrades slowly in the presence of oxygen (rate unknown); faster in acclimated (polluted) water than pristine water (*should be under 30 days in sewage treatment facility*)
Abiotic Degradation	this product reacts with atmospheric hydroxyl radicals; estimated ½-life in air less than one day
Mobility in soil, water	this product is water insoluble and has low soil mobility; adsorbs to soil helping it remain stationary

Aquatic Toxicity

LC_{50} (Fish, 96hr) 45mg/litre *emulsified,* 18-20mg/litre – *water soluble* (Pimephelas promelas) ***NOTE: Mineral spirits is essentially water insoluble. The above tests recognize this. The 1st emulsified the product, the 2nd equilibrated it with water, then tested.***

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13. TRANSPORT REGULATIONS

Canada TDG	**PIN**	**UN-1268**
AND	**Shipping Name**	**PETROLEUM DISTILLATES N.O.S. (naphtha)**
U.S.A. 49 CFR	**Class**	**3**
	Packing Group	**III**
Marine Pollutant		**not a marine pollutant**

14. EMERGENCY INFORMATION

Canada	**Call CANUTEC (collect)**	**(613) 996-6666**
U.S.A.	**Call CHEMTREC**	**(800) 424-9300**

15. REGULATIONS

Canada DSL	**on inventory**
U.S.A. TSCA	**on inventory**
Europe EINECS	**on inventory**
Korea KECI	**on inventory**
Philippines PICCS	**on inventory**

OSHA Standards: Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 500 ppm (2900 mg/cu m).

Threshold Limit Values: 8 hr Time Weighted Avg (TWA): 100 ppm. Excursion Limit Recommendation: Excursions in worker exposure levels may exceed three times the TLV-TWA for no more than a total of 30 min during a work day, and under no circumstances should they exceed five times the TLV-TWA, provided that the TLV-TWA is not exceeded.

16. PREPARATION INFORMATION

Prepared for Megaloid Laboratories by Peter Bursztyn, (705) 734-1577
Data from RTECS, Haz. Substance Data Base, Cheminfo, manufacturer data, and other source, as available
Preparation Date: ***June 2001*** *Revision Date*: ***July 2002, July 2005, June 2008, June 2011***