Established in 1981 megaloid laboratories limited
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Safety Data Sheet

1. PRODUCT INDENTIFICATION

Name	**Mineral Spirits (Rule 66) –** *less than 1% aromatics*
Synonyms	**solvent naphtha (petroleum), medium aliphatic**
CAS#	**64742-88-7**
Europe EC#	**265-191-7**
Product Uses	**solvent, diluent, fuel**

2. 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,* ***F*** *– Reactive Substance*
U.S.A. – HMIS	**Health – 1, Fire – 2, Reactivity – 0**
Key:	***0****=minimal,* ***1****=slight,* ***2****=moderate,* ***3****=serious,* ***4****=severe*

3. COMPOSITION

	%	TWAEV / TLV mg/m^3	LD_{50} (mg/kg) ORAL	LD_{50} (mg/kg) SKIN	LC_{50} ppm INHALATION
Solvent naphtha, medium, aliphatic	100%	100* / 525*	>2000	>2000	>11,000

**** Some suppliers give TWAEV/TLV values up to 300ppm for similar products.***

4. FIRST AID

SKIN:	Wash with soap and plenty of water. Remove contaminated clothing. Do not reuse until thoroughly 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. FIRE FIGHTING & FLAMMABILITY

Flash Point	40-46°C / 104-115°F (closed cup)
Autoignition Temperature	above 220°C / 430°F
Flammable Limits	0.6% – 6%
Combustion Products	carbon monoxide, nitrogen oxides, smoke, part oxidised hydrocarbon fragments
Firefighting Precautions	foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water – water jet spreads flames; firefighters must wear SCBA
Static Charge Accumulation	readily accumulates a static charge on agitation or pumping; high flash point limits risk

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

6. ACCIDENTAL RELEASE MEASURES

Summer Fire Potential: above 40°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

7. HANDLING & STORAGE

Store in a cool environment, away from sources of ignition, heat and oxidising agents. Non-sparking aluminum or bronze hand tools are recommended – *required if the product is handled at close to the Flash Point (40°C)*. All electrical and 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. Despite the high flash point, it is prudent to electrically bond the source container, receiving container, and transfer equipment before moving contents. (*Does not apply to the transfer of less than 10 litres.*) Avoid splashing by ensuring that the product nozzle is below the surface in the receiving container. Empty containers may contain a flammable / explosive vapour. Always ensure that containers, whether empty or full, or part 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: *Absorbent materials soaked in this product can undergo spontaneous combustion. Always dry used absorbent materials thoroughly before discarding.*

8. EXPOSURE CONTROL & PERSONAL PROTECTION

Ontario TWAEV	525mg/m^3
ACGIH TLV	100ppm / 525mg/m^3
OSHA PEL	400ppm
STEL (*lowest listed*)	500ppm / 2900mg/m^3
Ventilation	mechanical ventilation may be required to control airborne titre; depending on handling procedures
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. PHYSICAL PROPERTIES

Odour & Appearance	clear, colourless liquid with mild kerosene odour
Odour Threshold	not known
Vapour Pressure	2.3mmHg / 0.3kPa (20°C / 68°F)
Evaporation Rate (*Butyl Acetate = 1*)	0.15
Vapour Density (air = 1)	4.8
Boiling Range	149-213°C / 300-415°F
Freezing Point	-60°C / -76°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	not known – mobile liquid
pH	none – (*does not liberate hydrogen ions when dissolved*)
Conversion Factor	1ppm = 5.25mg/m^3 (estimated from average molecular weight)
Molecular Weight	143grams per mole (average molecular weight)

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10. 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 7, Note*
Decomposition Products	none apart from Hazardous Combustion Products
Sensitive to Mechanical Impact	no

11. TOXICITY

Effects, Acute Exposure

Skin Contact	little immediate effect
Skin Absorption	slight; no toxic effects by this route
Eye Contact	liquid may be irritating (results vary); vapour may cause discomfort above 860mg/m^3
Inhalation	may cause burning sensation in nose & throat; intoxication possible when inhaling saturated vapour concentration – *not relevant to industrial exposure*
Ingestion	may cause diarrhoea & stomach discomfort – *not a route of industrial exposure*

Effects, Chronic Exposure

General	prolonged or repeated contact may cause oil acne (*a form of dermatitis*) and erythrema; absorption may damage liver & kidneys, but at levels of vapour/mist not relevant to industrial exposure
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)	*RTECS*: 20,000mg/kg (rat); *Shell*: >2000mg/kg (rat); *ECB IUCLID*: >5000mg/kg (rat &/or mouse)[1]
LD_{50} (skin)	*RTECS*: 3900mg/kg (rabbit); *Shell*: >2000mg/kg (rat); *ECB IUCLID*: >2000 & 3000mg/kg (rabbit)[2]
LC_{50} (inhalation)	*Shell*: 11,000mg/m^3 (rat); *ECB IUCLID*: >5280, >5500 & >13,000mg/m^3 (rat)[1]

(1) *No mortality reported in the European tests.* (2) *As (1), but skin lesions (thickening, redness) were seen.*

12. ECOLOGICAL INFORMATION

Bioaccumulation	may bioaccumulate; *biodegradeable & may not persist long enough to bioaccumulate*
Biodegradation	components biodegrade readily in the presence of oxygen; 55-63% biodegradation in 28 days
Abiotic Degradation	components react with atmospheric hydroxyl radicals; estimated ½-life in air of major components ranges from 0.2 to 0.7 days
Mobility in soil, water	water insoluble; migrates slowly in soil & water
Aquatic Toxicity	
LC_{50} (Fish, 96hr)	800mg/litre (Salmo gairdneri & Pimephelas promelas)
EC_{50} (Crustacea, 48hr)	>100mg/litre (Daphnia magna)
EC_{50} (Algae, 96hr)	450mg/litre (Selenestrum capricornutum)

13. 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***

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14. TRANSPORT CLASSIFICATION

Canada TDG	**PIN**	**UN - 1268**
AND	**Shipping Name**	**petroleum distillates N.O.S. (naphtha)**
U.S.A. 49 CFR	**Class & Packing Group**	**3 (III)**
Marine Pollutant		not a marine pollutant
ERAP Required		**NO**

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**

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 3 times the TLV-TWA for no more than a total of 30 minutes during a work day, and under no circumstances should they exceed 5 times the TLV-TWA, provided that the TLV-TWA is not exceeded.

16. OTHER INFORMATION

Prepared for Megaloid Laboratories by Peter Bursztyn, (705) 734-1577
*Data from **RTECS**, **HSDB** (Haz. Substance Data Base), **Cheminfo** (CCOHS), **IUCLID** Datasheets (ESIS – European Chem. Substance Info. System), & others.*
*Preparation Date: **June 2002** Revision Date: **May 2005, June 2008, October 2009, October 2012***

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