




GHS	PROTECTIVE CLOTHING	TRANSPORT OF DANGEROUS GOODS
		 <p>Over 450 litres TARS, LIQUID Class 3 UN1999 P.G. :III</p>

## SECTION I: IDENTIFICATION

**Use:** Restoration of roof.

**Manufacturer:** ExpertSeal  
327 9th Avenue  
Richmond (Quebec) J0B 2H0  
CANADA  
Tel.: 819 826-1000

**Distributor:** Resisto Division, Soprema Canada  
1675 Haggerty Street  
Drummondville (Quebec) J2C 5P7  
CANADA  
Tel.: 819 478-8408 – 1 877 478-8408

**In case of emergency:**

SOPREMA (8:00am to 5:00pm): 1 800 567-1492

CANUTEC (Canada) (24h.): 613 996-6666

CHEMTREC (USA) (24h.): 1 800 424-9300

## SECTION II: HAZARD(S) IDENTIFICATION

**DANGER**

Flammable liquid and vapour. May be fatal if swallowed and enters airways. Harmful if swallowed. May cause respiratory irritation or drowsiness or dizziness. Causes skin irritation. Causes eye irritation.

Keep away from heat, sparks, open flames and hot surfaces. No smoking. Use explosion proof electrical equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not eat or drink when using this product. Do not breath vapours. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Wear protective gloves, eye protection and an organic vapour respirator. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. Dispose of container in accordance with local, regional and national regulations.

## SECTION III: COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

NAME	CAS #	% WEIGHT	EXPOSURE LIMIT (ACGIH)	
			TLV-TWA	TLV-STEL
Asphalt	8052-42-4	60-100	0.5 mg/m <sup>3</sup>	Not established
Stoddard Solvent	8052-41-3	10-30	100 ppm	Not established

**Effects of Short-Term (Acute) Exposure****INHALATION**

**Stoddard solvent:** Vapours or mist can cause irritation and central nervous system (CNS) effects, such as headache, dizziness, intellectual impairment and fatigue. (1)

**Asphalt:** Exposure is not expected by this route of entry under normal product use.

**SKIN CONTACT**

**Stoddard solvent:** Stoddard solvent is a moderate skin irritant, based on animal information. Repeated or prolonged exposure may result in contact dermatitis. (1)

**Asphalt:** Asphalt may cause irritation to the skin. (2)

**EYE CONTACT**

**Stoddard solvent:** The vapour, mist and liquid can cause mild eye irritation. The liquid has caused mild irritation in an animal study. (1)

**Asphalt:** Asphalt, in this form is not expected to cause eye irritation. (2)

**INGESTION**

**Stoddard solvent:** Animal studies indicate the oral toxicity of Stoddard solvent is low. However, it is very hazardous if even a few ml are aspirated (breathed into the lungs). Aspiration can occur easily with Stoddard solvent during ingestion or vomiting. It can cause severe lung injury and may even be fatal. Ingestion is not a typical route of occupational exposure. (1)

**Asphalt:** No information available.

**Effects of Long-Term (Chronic) Exposure****SKIN CONTACT**

**Stoddard solvent:** Repeated or prolonged contact with the skin can cause irritation. Case reports indicate that when Stoddard solvent is allowed to remain in close contact with skin, as when clothing wet with Stoddard solvent is worn, blisters and sores may develop. (1)

**Asphalt:** Repeated or prolonged contact may cause irritation. (2)

**INHALATION**

**Stoddard solvent:** See effects described below.

**Asphalt:** Exposure is not expected by this route of entry under normal product use.

**NERVOUS SYSTEM EFFECTS**

**Stoddard solvent:** Chronic organic solvent intoxication is the name given to a pattern of nervous system effects resulting from heavy exposure to a variety of organic solvents. It is a rare condition and seems to develop only after repeated overexposures. Symptoms include headache, dizziness, reduced memory, tiredness, and joint pain, sleep disturbance, pain, numbness, and tingling in the fingers and toes, decreased manual dexterity, depression, irritability, emotional instability, reduced ability to concentrate and nausea. The severe forms of chronic organic solvent intoxication may be reversible or only slowly reversible. Studies of painters suggest that long-term exposure (mean exposure 22 to 27 years) to organic solvents, such as Stoddard solvent, may cause chronic organic solvent intoxication. These painters were exposed to many different chemicals, over many years, and it is not possible to relate these effects to any one chemical. (1)

**Asphalt:** No information available.

**BLOOD EFFECTS**

**Stoddard solvent:** Decreased bone marrow cell production (aplastic anaemia) has been seen in people exposed repeatedly for long periods (months to years) to Stoddard solvent. This condition was fatal in 4 of 5 case reports. It has been suggested that the presence of benzene may have been responsible for the aplastic anaemia. Benzene exposure is recognized as a cause of aplastic anaemia. Current commercial products of Stoddard solvent contain only trace amounts of benzene (less than 10 ppm). (1)

**Asphalt:** No information available.

## LIVER AND KIDNEY EFFECTS

**Stoddard solvent:** There is one case report of a worker developing kidney injury after intense, unprotected skin and inhalation exposures to Stoddard solvent 6 hours/day for one year. The worker experienced significant acute toxicity as a result of this exposure. There is one case report (1940) of a worker developing liver injury, as well as anaemia and stomach disorders, after working with his hands immersed or wet with Stoddard solvent for 3 months. The worker was employed in the dry-cleaning industry and was exposed to other chemicals at the same time. An association of liver injury with exposure to organic solvents, such as Stoddard solvent, was found in one study of house painters. The painters were also exposed to many other chemicals and it is not possible to draw any conclusion from this study. (1)

**Asphalt:** No information available.

## CARCINOGENICITY

**Stoddard solvent:** The International Agency for Research on Cancer (IARC) has reviewed the carcinogenicity of petroleum solvents (including Stoddard solvent in a sub-group of white spirits). IARC concluded that petroleum solvents are not classifiable as to their carcinogenicity to humans. Subsequent studies of carcinogenicity patterns in people working in the dry cleaning and laundry industry showed an increase in various cancers including kidney and bladder cancer. However, these studies are extremely difficult to evaluate because the workers were exposed to many different solvents, including tetrachloroethylene, a suspected carcinogen. IARC has concluded that this chemical is not classifiable as to its carcinogenicity to humans (Group 3). The American Conference of Governmental Industrial Hygienists (ACGIH) has not assigned a carcinogenicity designation to this chemical. The US National toxicology Program (NTP) has not listed this chemical in its report on carcinogens. (1)

**Asphalt:** Not classified or listed by the US National Toxicology Program (NTP), the Occupational Safety & Health Administration (OSHA), European Union (EU) and the American Conference of Governmental Industrial Hygienists (ACGIH). In its 2013 monograph (Volume 103), the International Agency for Research on Cancer (IARC) conducted a review of the potential carcinogenicity of bitumen (the European term for asphalt). One of its conclusions was that the "occupational exposures to straight-run bitumens and their emissions during road paving are possibly carcinogenic to humans (group 2B)". Due to the product form, exposure to hazardous dusts or fumes is not expected to occur. Information on carcinogenicity is given for reference only. (2)

## TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY

**Stoddard solvent:** Two studies have made associations between exposure to white spirit (Stoddard solvent) and birth defects. No conclusions can be drawn because of small numbers, other exposures and other limiting factors. (1)

**Asphalt:** No information available.

## REPRODUCTIVE TOXICITY

**Stoddard solvent:** No human or animal information available. (1)

**Asphalt:** No information available.

## MUTAGENICITY

**Stoddard solvent:** Not mutagenic when tested on cultured human blood cells (in vitro). Also negative in animal studies and bacterial test. (1)

## TOXICOLOGICALLY SYNERGISTIC MATERIALS

**Stoddard solvent:** No information available. (1)

**Asphalt:** No information available.

## POTENTIAL FOR ACCUMULATION

**Stoddard solvent:** Because of its solubility in fat, Stoddard solvent may accumulate in fat to some extent. (1)

**Asphalt:** No information available.

## SECTION IV: FIRST-AID MEASURES

### SKIN CONTACT

Wash with plenty of water. If skin irritation occurs, get medical advice. Take off immediately all contaminated clothing and wash it before reuse.

## EYE CONTACT

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice.

## INHALATION

Remove person to fresh air and keep comfortable for breathing. Call a poison center if you feel unwell.

## SWALLOWING

Immediately call a poison center. Do NOT induce vomiting. Rinse mouth.

## SECTION V: FIRE-FIGHTING MEASURES

**FLAMMABILITY:** Combustible Class II (NFPA)

**EXPLOSION DATA:** Sensitivity to mechanical impact: Probably not sensitive. Stable material.

Sensitivity to static charge: Can accumulate static charge by flow or agitation.

**FLASH POINT:** 55°C (100-102°F) (Closed cup)

**AUTO-IGNITION TEMPERATURE:** 229°C (444°F) (Stoddard solvent)

**FLAMMABILITY LIMITS IN AIR:** (% in volume) 0.9 – 6 (Stoddard solvent)

## FIRE AND EXPLOSION HAZARDS

Combustible liquid. Can release vapours that form explosive mixtures with air at, or above 37.8 °C. Vapours are heavier than air and may travel a considerable distance to a source of ignition and flash back to a leak or open container. Liquid can accumulate static charge by flow or agitation. During a fire, irritating/toxic gases may be generated. Can accumulate in confined spaces, resulting in a toxicity and flammability hazard. Containers may explode in heat of fire. Do not cut, puncture or weld empty containers.

## COMBUSTION PRODUCTS

Irritating and/or toxic gases or fumes may be generated by thermal decomposition or combustion (CO, CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>, H<sub>2</sub>S). Toxic and/or irritating gases or fumes can emanate from empty containers when submitted to high temperatures.

## FIRE FIGHTING INSTRUCTIONS

Evacuate area. Wear self-contained breathing apparatus and appropriate protective clothing in accordance with standards. Approach fire from upwind and fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Always stay away from containers because of the high risk of explosion. Stop leak before attempting to put out the fire. If leak cannot be stopped, and if there is no risk to the surrounding area, let the fire burn itself out. Move containers from fire area if this can be done without risk. Cool containers with flooding quantities of water until well after fire is out.

## MEANS OF EXTINCTION

Anti-alcohol or universal foam, dry chemical powder, CO<sub>2</sub>, sand. Use of water spray when fighting fire may be inefficient because of the low flash point of the product.

## SECTION VI: ACCIDENTAL RELEASE MEASURES

### RELEASE OR SPILL

Ventilate area. Wear appropriate protective equipment during cleanup. Eliminate all sources of ignition. Shut off source of leak if you can do it without risk. Contain the spill. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Sweep or shovel into containers with lids, use clean non-sparking tools to collect absorbed material. Cover and remove to appropriate well ventilated area until disposal. Do not touch or walk through spilled material. Wash spill area with soap and water. Prevent entry into waterways, sewers, basements or confined areas. Dispose of this product according to the local environmental regulations.

## SECTION VII: HANDLING AND STORAGE

### HANDLING

This product and its vapours are flammable and toxic. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid breathing mist, vapour or dust. Wash thoroughly after handling. Before handling, it is very important that ventilation controls are operating and protective equipment requirements are being followed. People working with this product would be properly trained regarding its hazards and its safe use. Eliminate all ignition sources (e.g. sparks, open flames, hot surfaces). Keep away from heat. Ground transfer containers to avoid static accumulation. Tightly reseal all partially used containers. Do not cut, puncture or weld empty containers.

### STORAGE

Store in a cool well-ventilated area out of direct sunlight and away from heat and ignition sources. Keep storage areas clear of combustible materials. No smoking near storage area. Store away from incompatible materials. Store the product according to occupational health and safety regulations and fire and building codes. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Have appropriate fire extinguishers and spill clean-up equipment near storage area. Inspect all containers to make sure they are properly labelled.

## SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION

**HANDS:** Wear gloves made from polyvinyl alcohol (PVA) or viton.

**RESPIRATORY:** If the TLV is exceeded, if use is performed in a poorly ventilated confined area, use an approved respirator in accordance with standards.

**EYES:** Wear chemical safety goggles in accordance with standards.

**OTHERS:** Eye bath and safety shower.

**CONTROL OF VAPOURS:** Local exhaust is needed to control vapour and dust level to below recommended limits.

## SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

<b>PHYSICAL STATE:</b>	Viscous liquid
<b>ODOUR AND APPEARANCE:</b>	Black liquid with solvent odour
<b>ODOUR THRESHOLD:</b>	Not available
<b>VAPOUR DENSITY (air = 1):</b>	Heavier than air
<b>EVAPORATION RATE (Butyl acetate = 1):</b>	0.1 (Stoddard solvent)
<b>BOILING POINT (760 mm Hg):</b>	Not available
<b>FREEZING POINT:</b>	Not available
<b>SPECIFIC GRAVITY (H<sub>2</sub>O = 1):</b>	1.35
<b>SOLUBILITY IN WATER (20°C):</b>	Insoluble
<b>VOLATILE ORGANIC COMPOUND (V.O.C.) CONTENT:</b>	175 g/L
<b>VISCOSITY:</b>	Not available

## SECTION X: STABILITY AND REACTIVITY

**STABILITY:** This material is stable.

**CONDITIONS OF REACTIVITY:** Avoid excessive heat, open flame, static discharge, sparks and other ignition sources.

**INCOMPATIBILITY:** Strong oxidizing agents, strong bases, strong acids and halogens.

**HAZARDOUS DECOMPOSITION PRODUCTS:** CO<sub>x</sub>, NO<sub>x</sub>, SO<sub>x</sub>, PO<sub>x</sub>, H<sub>2</sub>S, hydrocarbons, irritant fumes and vapours.

**HAZARDOUS POLYMERIZATION:** None

## SECTION XI: TOXICOLOGICAL INFORMATION

### TOXICOLOGICAL DATA

**Stoddard solvent:** (1)

LC<sub>50</sub> (rat): > 880 ppm (4-hour exposure)

LD<sub>50</sub> (oral, rat): > 5 500 mg/kg

LD<sub>50</sub> (dermal, rabbit): > 3 000 mg/kg

**Asphalt:** Not available.

## Effects of Short-Term (Acute) Exposure

### INHALATION

**Stoddard solvent:** Short-term animal studies have shown depression of the CNS and irritation of the eyes, nose and throat. Rats exposed for an 8-hour period to 1 400 ppm Stoddard solvent experienced eye irritation, developed a bloody discharge around the nose and showed signs of slight loss of coordination. Similar effects were seen in rats exposed for an 8-hour period to 800 ppm but there was no loss of coordination. No effect was seen in rats exposed for 8 hours to 420 ppm. (1)

**Asphalt:** No information available.

### EYE IRRITATION

**Stoddard solvent:** Stoddard solvent is a mild eye irritant. Caused minimal irritation in rabbits when 0.1 ml was applied in a standard Draize test. (1)

**Asphalt:** No information available.

### SKIN IRRITATION

**Stoddard solvent:** Stoddard solvent is a moderate skin irritant. In a standard Draize test, application of 0.5 ml of Stoddard solvent (boiling range 160.6-199.4°C) to the intact and abraded skin of rabbits for 24 hours caused moderate skin irritation (scored 4.5/8). (1)

**Asphalt:** No information available.

## Effects of Long-Term (Chronic) Exposure

### INHALATION

**Stoddard solvent:** Long-term animal studies have shown only lung irritation and slight liver and kidney effects. (1)

**Asphalt:** No information available.

### SKIN SENSITIZATION

**Stoddard solvent:** No sensitization seen when tested on guinea pigs. (1)

**Asphalt:** No information available.

### TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY

**Stoddard solvent:** No foetal effects were reported following maternal exposure of rats to 100 or 300 ppm white spirits 6 hours/day during pregnancy. No further details were reported. No effects were obtained in another study with exposures up to 950 ppm, in spite of maternal toxicity. (1)

**Asphalt:** No information available.

### MUTAGENICITY

**Stoddard solvent:** Stoddard solvent injected into mice, or rat bone marrow, did not produce chromosomal aberrations. It did not induce mutations in sperm of male rats exposed prior to mating. No mutagenicity was seen in tests with bacteria or mouse lymphoma cells. (1)

**Asphalt:** No information available.

## SECTION XII: ECOLOGICAL INFORMATION

### ENVIRONMENTAL EFFECTS

Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities. May be harmful to aquatic life.

## SECTION XIII: DISPOSAL CONSIDERATIONS

### WASTE DISPOSAL

This product is listed as hazardous waste. Consult local, state, provincial or territory authorities to know disposal methods. Also listed as hazardous waste by the RCRA (USA); waste disposal as to follow EPA regulations. Do not dispose of waste with normal garbage or sewers systems.

#### SECTION XIV: TRANSPORT INFORMATION

Over 450 litres this product is regulated for Transportation of Dangerous Goods.

**CLASSIFICATION (TDG – DOT) :** Class 3

**IDENTIFICATION NUMBER :** UN1999

**SHIPPING NAME :** Tars, liquid

**PACKING GROUP :** III

#### SECTION XV: REGULATORY INFORMATION

**DSL:** All constituents of this product are included on the Domestic Substances List (DSL – Canada).

**TSCA:** All constituents of this product are included on the Toxic Substances Control Act Inventory (TSCA – United States).

**Prop. 65:** This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

#### SECTION XVI: OTHER INFORMATION

##### GLOSSARY

**ASTM:** American Society for Testing and Materials (United States)

**CAS:** Chemical Abstract Services

**CSA:** Canadian Standardization Association

**DOT:** Department of Transportation (United States)

**EPA:** Environmental Protection Agency (United States)

**GHS** Globally Harmonized System

**LD<sub>50</sub>/LC<sub>50</sub>:** Less high lethal dose and lethal concentration published

**RCRA:** Resource Conservation and Recovery Act (United States)

**TDG:** Transportation of Dangerous Goods (Canada)

**TLV-TWA:** Threshold Limit Value – Time-Weighted Average

##### **References:**

- (1) CHEMINFO (2016) Canadian Centre of Occupational Health and Safety, Hamilton (Ontario) Canada
- (2) Manufacturer's SDS

**Code of SDS:** CA U DRU SS FS 136

**For more information:** 1 800 567-1492

The Safety Data Sheets of RESISTO Canada are available on Internet at the following site: [www.resisto.ca](http://www.resisto.ca)

##### **Justification of the update:**

- Modification of classification in Section XIV.

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