

HEALTH CANADA	PROTECTIVE CLOTHING	TRANSPORT OF DANGEROUS GOODS
		 <p style="text-align: right;">ADHESIVE Class 3 UN1133 P.G.: II</p>

SECTION I: IDENTIFICATION

Use: Exterior primer used for application on surfaces intended to receive a self-adhesive membrane.

Manufacturer: Soprema Canada
1675, rue Haggerty
Drummondville (Québec) J2C 5P7
CANADA
Tél. : 819 478-8163

Distributor: Division Resisto, Soprema Canada
1675, rue Haggerty
Drummondville (Québec) J2C 5P7
CANADA
Tél. : 819 478-8408 – 1 887 478-8408

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

Highly flammable liquid and vapours. 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. Suspected of damaging fertility or the unborn child. May cause damage to the central nervous system through prolonged or repeated exposure if inhaled.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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. Avoid breathing 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
Toluene	108-88-3	60-100	20 ppm	Not established

Effects of Short-Term (Acute) Exposure

INHALATION

Toluene: Inhalation of toluene vapour can affect the CNS. At approximately 50 ppm, slight drowsiness and headache have been reported. Irritation of the nose, throat and respiratory tract has occurred between 50 and 100 ppm. About 100 ppm has caused fatigue and dizziness; over 200 ppm has caused symptoms similar to drunkenness, numbness, and mild nausea; and over 500 ppm has caused mental confusion and incoordination. Higher concentrations (estimated at higher than 10 000 ppm) can result in unconsciousness and death. Most serious incidences of exposure have occurred when the vapour has accumulated in confined spaces. (1)

SKIN CONTACT

Toluene: Toluene is a moderate skin irritant, based on animal information. Prolonged contact can cause dermatitis (dry, red skin). Absorption of toluene through the skin may contribute significantly to the overall exposure. Although no reports of harmful effects following skin absorption were located. Application of undiluted toluene in a chamber for 3 minutes to 6 volunteers resulted in irritation and rapid skin absorption. (1)

EYE CONTACT

Toluene: Toluene is a very mild eye irritant, based on animal evidence. (1)

INGESTION

Toluene: There are case reports of accidental ingestion of toluene causing severe CNS depression and death. Toluene is readily absorbed following ingestion producing symptoms similar to those described for inhalation. Toluene may be aspirated, which is the inhalation of a chemical into the lungs, during ingestion or vomiting. Severe lung irritation, damage to the lung tissues and death may result. (1)

Effects of Long-Term (Chronic) Exposure

NERVOUS SYSTEM

Toluene: Numerous studies of rotogravure printers, painters and rubberized-matting workers with long-term exposure to toluene are inconclusive about the potential of toluene to cause CNS damage. Most studies do not have good exposure data, several indicate alcohol consumption as a confounder and few have used the neurobehavioral tests recommended by the World Health Organization. Some studies report changes such as memory loss, sleep disturbances, incoordination or loss of ability to concentrate, while others report no effects. (1)

RESPIRATORY SENSITIZATION

Toluene: Toluene is not a respiratory sensitizer. Despite widespread use, no reports of respiratory sensitization were located. (1)

SKIN

Toluene: Prolonged contact to toluene is expected to cause dermatitis (dry, red skin) because of its defatting action. (1)

SKIN SENSITIZATION

Toluene: Toluene is not a skin sensitizer. Despite widespread use, no reports of skin sensitization in humans were located. A negative result was obtained in a well-conducted but unconfirmed animal test. (1)

KIDNEYS/URINARY SYSTEM

Toluene: Kidney effects are not expected to occur unless exposures are very high. In population studies of workers exposed long-term to levels up to 200 ppm, there was no clear evidence of kidney damage. There are reports of kidney damage in people exposed long-term to high concentrations of toluene as a result of solvent abuse (glue-sniffing). These extreme exposures are not relevant to occupational situations. (1)

LIVER

Toluene: Liver effects are not expected to occur unless exposures are very high. (1)

EYES/VISION

Toluene: A review of several studies on toluene and its effects on colour vision concluded that the evidence is inconclusive as to whether long-term exposure to toluene results in a persistent impairment of colour vision. (1)

HEARING

Toluene: Firm conclusions cannot be drawn based on the limited information available. Hearing loss has been observed in workers in some studies following long-term exposure to toluene and noise and in animals exposed to very high concentrations of toluene. (1)

BLOOD/BLOOD FORMING SYSTEM

Toluene: Recent studies do not show consistent effects on the blood from long-term toluene exposure. (1)

IMMUNE SYSTEM

Toluene: There is some information indicating that workers exposed to toluene may have slight effects on the immune system, but these studies are limited by concurrent exposure to other solvents. A recent review of the evidence of immune effects for various chemicals concluded that there is weak evidence that toluene causes immunotoxicity. (1)

CARCINOGENICITY

Toluene: Toluene is not considered carcinogenic. There have been several human population studies that have examined the possible relationship between toluene exposure and cancer. Most types of cancer were not significantly associated with toluene exposure in any study. Stomach cancer mortality, lung cancer rates and colorectal cancers were evaluated in some studies, but not others. Because most of the studies involved multiple exposures and there are inconsistencies in the findings, it is not possible to conclude that toluene exposure is associated with cancer in humans. The International Agency for Research on Cancer (IARC) has concluded there is inadequate evidence for the carcinogenicity of toluene in humans. Toluene did not cause tumours in rats and mice exposed by inhalation in a well-conducted study. 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 designated this chemical as not classifiable as a human carcinogen (A4). The US National Toxicology Program (NTP) has not listed this chemical in its report on carcinogens. (1)

TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY

Toluene: Toluene is a developmental toxicity hazard, based on information obtained from animal studies. Fetotoxicity (reduced foetal weight), behavioural effects (effects on learning and memory) and hearing loss (in males) have been observed in the offspring of rats exposed by inhalation to 1 200 or 1 800 ppm toluene. These effects were observed in the absence of maternal toxicity. A detailed review of toluene and its potential to cause teratogenicity/embryotoxicity in occupational situations has been published. This review concludes that although many occupational studies have evaluated general solvent exposure and pregnancy outcomes, few studies have specifically investigated toluene exposure. Most of these studies have involved exposure to solvents in general or to certain solvent classes, with toluene exposure addressed as a co-exposure or identified as a common exposure in a sub-group. Outcomes of concern included miscarriages and teratogenicity (congenital malformations). (1)

REPRODUCTIVE TOXICITY

Toluene: Toluene is not considered a reproductive hazard. No conclusions can be drawn based on the available human information. Reproductive effects have not been observed in animal studies. (1)

MUTAGENICITY

Toluene: There is insufficient information available to conclude that toluene is mutagenic. Results from human studies are inconclusive. Both positive and negative results have been obtained in studies for various mutagenic effects in peripheral blood lymphocytes of workers

exposed to toluene. In some studies, the workers were exposed to many organic solvents. However, most of the studies were conducted with rotogravure printing plant workers who were exposed primarily to toluene, but also have concurrent exposure to printing ink. (1)

TOXICOLOGICALLY SYNERGISTIC MATERIALS

Toluene: Combined exposure to toluene and noise, toluene and n-hexane, toluene and aspirin or toluene, ethylbenzene and noise has caused a synergistic loss of hearing in animal studies. Increased hearing loss has also been observed in workers in some studies following long-term exposure to toluene and noise. (1)

POTENTIAL FOR ACCUMULATION

Toluene: Toluene is readily absorbed by inhalation, ingestion and through the skin. Inhaled toluene appears quickly in the brain fat (lipid) where it is rapidly eliminated. Toluene is removed rapidly from the blood. It is metabolized in the liver where it is converted via several steps primarily to hippuric acid, which is excreted in the urine. A small amount of toluene is also exhaled unchanged. Toluene has been identified in human milk. (1)

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

Flush thoroughly with water for at least 15 minutes. If irritation persists, get medical attention.

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: Flammable liquid, Class 1B (NFPA)

EXPLOSION DATA: Sensitivity to mechanical impact: No
Sensitivity to static charge: Can accumulate static charge by flow.

FLASH POINT: -3°C (ASTM D93)

AUTO-IGNITION TEMPERATURE: 480°C (toluene)

FLAMMABILITY LIMITS IN AIR: (% in volume) 1.2-7.1 (toluene)

FIRE AND EXPLOSION HAZARDS

This product and its vapours are easily ignited by heat, sparks of flames. Vapours may form explosive mixtures with air. 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. The product may ignite on contact with strong oxidizing agents. 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. Toxic and/or irritating gases or fumes can emanate from empty containers when submitted to high temperatures: CO, CO₂, aldehyde, ketone, acrolein, halogenated compound; reactive hydrocarbons.

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.

EXTINGUISHING MEDIA

Anti-alcohol or universal foam, dry chemical powder, CO₂, 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 (sp.: plastic) 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 material according to local environmental regulations.

SECTION VII: HANDLING AND STORAGE

HANDLING

This product and its vapours are highly flammable and toxic. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid breathing mist, vapour or dust. Wash hands 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 should 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 X: STABILITY AND REACTIVITY

STABILITY: This material is stable.

CONDITIONS OF REACTIVITY: Avoid excessive heat

INCOMPATIBILITY: Strong oxidizing and reducing agents, bases, halogenated compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: No evidence

HAZARDOUS POLYMERISATION: None

SECTION XI: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA

Toluene: (1)

LC50 (rat): 7 585 ppm (4-hour exposure)

LD50 (oral, male rat): 5 580 mg/kg (cited as 5.58 g/kg)

LD50 (dermal, rabbit): 12 125 mg/kg (cited as 14.1 ml/kg)

Effects of Short-Term (Acute) Exposure

EYE IRRITATION

Toluene: Toluene is a very mild eye irritant. (1)

SKIN IRRITATION:

Toluene: Toluene is a moderate skin irritant. (1)

INHALATION

Toluene: Studies with rats have shown that up to approximately 1 000 ppm causes excitation and increased activity. At approximately 2 000 ppm, there is CNS depression with drowsiness, incoordination and unconsciousness. Death at higher concentrations is from respiratory failure. (1)

INGESTION

Toluene: Rats were given a single dose of 0, 2 580, 3 870 or 5 100 mg/kg (cited as 0, 3.0, 4.5 and 6.0 ml/kg) undiluted toluene and monitored for neurotoxic effects using a battery of functional tests on days 1, 7 and 14. Within 1 hour of dosing, the animals became hyperactive for more than 8 hours. Significantly increased horizontal activity occurred in males at 3 870 and 5 100 mg/kg, and in females at 5 100 mg/kg. Significantly decreased vertical activity occurred in both sexes at all doses. By day 14 vertical activity scores were still depressed in the 2 580 and 3 870 mg/kg groups. (1)

Effects of Long-Term (Chronic) Exposure

INHALATION

Toluene: Numerous studies using rats and mice have shown reduced performance on some neurobehavioral tests but not others, both during and after inhalation exposures mainly of 500 ppm and higher. In general, these effects were reversible. (1)

INGESTION

Toluene: Female rats given 0, 118, 354 or 590 mg/kg/day of toluene in olive oil for up to 6 months showed no signs of toxicity. (1)

SKIN SENSITIZATION

Toluene: Toluene is not a skin sensitizer. (1)

CARCINOGENICITY

Toluene: IARC has concluded there is inadequate evidence for the carcinogenicity of toluene in experimental animals. Toluene was not considered carcinogenic in a NTP study where mice and rats (60/sex/group) were exposed by inhalation to 0, 120, 600 or 1 200 ppm for 24 months (6.5 hours/day, 5 days/week). However, in this study, all of the toluene-exposed female mice and the 1 200 ppm group of male mice had a single adenoma in the pituitary gland (in the pars intermedia). This is a very rare tumour and this observation may indicate a possible marginal tumorigenic effect. (1)

TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY

Toluene: Toluene does cause developmental effects in animals, based on fetotoxicity (reduced foetal weight), behavioural effects (effects on learning and memory) and hearing loss (in males) observed in the offspring of rats exposed by inhalation to 1 200 or 1 800 ppm. These effects were observed in the absence of maternal toxicity. (1)

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOUR AND APPEARANCE: Green liquid with strong solvent odour

ODOUR THRESHOLD: 2-40 ppm (toluene)

VAPOUR DENSITY (air = 1): 3.1 (toluene)

EVAPORATION RATE (Butyl acetate = 1): 2.24 (toluene)

BOILING POINT (760 mm Hg): 111°C (toluene)

FREEZING POINT: -95°C (toluene)

SPECIFIC GRAVITY (H₂O = 1): 0.90 kg / L

SOLUBILITY IN WATER (20°C): Insoluble

VOLATILE ORGANIC COMPOUND (V.O.C.) CONTENT: 650 g / L

VISCOSITY: 1 000 Centipoises (Visco Brookfield LVT)

REPRODUCTIVE TOXICITY

Toluene: The available information does not indicate that toluene is a reproductive toxin. (1)

MUTAGENICITY

Toluene: The available information is not sufficient to conclude that toluene is mutagenic. Positive results in live animals have only been observed in a limited, unconfirmed study and in studies using routes of exposure that are not relevant to occupational situations. Negative results have been observed in studies using rats and mice exposed orally or by inhalation. Negative results have been obtained at non-toxic doses in cultured mammalian cells, in several tests using bacteria and in a test using yeast. Negative and positive results have been obtained in fruit flies (*Drosophila*). (1)

TOXICOLOGICAL SYNERGISMS

Toluene: Combined exposure to toluene and noise, toluene and n-hexane, toluene and aspirin or toluene, ethylbenzene and noise has caused a synergistic loss of hearing in animal studies. (1)

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

CLASSIFICATION (TDG - DOT): Class 3

IDENTIFICATION NUMBER: UN 1133

SHIPPING NAME: Adhesive

PACKING GROUP: II

CONTAINERS FOLLOW THE STANDARDS.

Classification based on Section V of this document

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).

Proposition 65: This product contains chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION XVI: OTHER INFORMATION

GLOSSARY

ANSI:	American National Standards Institute (United States)
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
LD₅₀/LC₅₀:	Less high lethal dose and lethal concentration published
NFPA:	National Fire Protection Association (United States)
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 (2015) Canadian Centre of Occupational Health and Safety, Hamilton (Ontario) Canada

Code of SDS: CA U DRU SS FS 016
For more information: 1 800 567-1492

The Safety Data Sheets of RESISTO are available on Internet at the following site: www.resisto.ca

Justification of the update :

- Triennial update.
- GHS format.

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Bar Codes:

Exterior Primer:

6 23680 65745 8

6 23680 65751 9

6 23680 65755 7