MATERIAL SAFETY DATA SHEET
SELF-ADHESIVE WATERPROOFING MEMBRANE

Disponible en français

HEALTH CANADA	PROTECTIVE CLOTHING	TRANSPORT OF DANGEROUS GOODS
Not regulated		**Not regulated**

SECTION I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **Self-Adhesive Waterproofing Membrane**
Use: Elastomeric bitumen self-adhesive membrane.

Trade names: Aluminium Waterproofing Membrane, Basic Waterproofing Membrane, HR Cap Sheet, ICF Foundations Waterproofing Membrane, "Lastobond" Eaves Protection Sheet – Sanded Finish, Lastobond Pro HTN, Lastobond Pro HTS, Red Zone.

Code of MSDS: **CA U DRU SS FS 043**
Revision date: **May 13, 2008**
Revised by: **Michel Galtier**, **Health and Safety Supervisor**
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Manufacturer:
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In case of emergency:

SOPREMA (8:00am to 5:00pm – Eastern time):	**(800) 567-1492**
CANUTEC (Canada) (24h.):	**(613) 996-6666**
CHEMTREC (USA) (24h.):	**(800) 424-9300**
Poison Control Centre:	**Consult local telephone directory**

EMERGENCY OVERVIEW!!!

Dark membrane with granule or sand surface or not. Asphalt odour. Under normal use, this product is not expected to create any health or environmental hazard. Inhalation of dust or of asphalt fumes can cause a respiratory irritation and/or a congestion.

SECTION II. COMPOSITION AND INFORMATION ON DANGEROUS INGREDIENTS				
NAME	**CAS #**	**% WEIGHT**	**EXPOSURE LIMIT (ACGIH)**	
			TLV-TWA	**TLV-STEL**
BITUMINOUS BLEND				
Bitumen	8052-42-4	30-70	0.5 mg/m³ Asphalt fumes	Not established
Self-adhesive membranes contain: **Highly hydrotreated naphthenic oil[1]**	64742-52-5	10-30	Not established	Not established
Calcium Carbonate[1]	471-34-1	0-40	10 mg/m³	Not established
Styrene butadiene copolymer[1]	9003-55-8	0-15	10 mg/m³	Not established
REINFORCEMENT Some products may contain fibre glass, polyester or a mix of glass grid and polyester.				
Polyester mat[1]	N/A	1-7	Not established	Not established
Fibre glass mat[1]	N/A	1-7	Not established	Not established
Contains: **Fibre glass filament[1]**	65997-17-3	0.5-7	1 f/cc (for fibres longer than 5 µm with a diameter of lower than 3 µm)	Not established
UNDERFACE AND SURFACE Some membranes are protected by sand, talc, mineral granule, silicone paper, polyethylene or polypropylene film, aluminium, copper or stainless steel foil.				
Silicone paper	N/A	6-20	Not established	Not established
Polypropylene film	N/A	2-10	Not established	Not established
Polyethylene film	9002-88-4	2-10	Not established	Not established
Aluminium, copper or stainless steel foil	N/A	4-15	Not established	Not established
Sand	N/A	7-13	0.1 mg/m³	Not established
Contains: **Crystalline silica[2]**	14808-60-7	7-13	0.1 mg/m³	Not established
Talc	14807-96-6	7-13	2 mg/m³ Respirable particulate	Not established
Coloured granules	N/A	15-40	Not established	Not established
Contain: **Crystalline silica[2]**	14808-60-7	< 12	0.1 mg/m³	Not established

1. The exposure to the product above the limits of exposure is not likely to occur considering its form (incorporated in the mixture) and the provided use. The limit of exposure is given for reference only.
2. A proportion of crystalline silica can be present in the sand sprinkled on the top of some membranes. The crystalline silica contained in the sand is not likely to be found in the ambient air in concentration above the limit of exposure since the sand adheres to the surface of the membrane.

SECTION III. POTENTIAL HEALTH EFFECTS

Effects of short term (acute) exposure

SKIN CONTACT:
The product can cause a mechanical irritation of the skin because of its rough surface. The asphalt fumes can cause an irritation of the skin.

EYE CONTACT:
The product is not likely to cause effects to the eyes. The asphalt fumes can cause irritations, redness and conjunctivitis to the eyes.

INHALATION:
The product is not likely to cause effects on the respiratory system. The asphalt fumes can cause irritations to the nose, the throat and the respiratory tracts, tiredness, headaches, dizziness, nauseas and insomnia.

INGESTION:
Exposure is not likely to occur by this route of entry under normal use of the product.

Effects of long term (chronic) exposure

SKIN CONTACT:
The repeated or prolonged contact can cause irritation. The long-term exposure to the asphalt fumes can cause changes of the pigmentation of the skin which can be worsened by the exposure to the sun. (1)

INHALATION:
No data on chronic effects of the exposure to asphalt fumes on the lungs.

SECTION III. POTENTIAL HEALTH EFFECTS

CARCINOGENICITY:

Due to the product form, exposure to hazardous dusts or fumes is not expected to occur. Information on carcinogenicity is given for reference only. This product is not classifiable as a carcinogen.

Asphalt:

The International Agency for Research on Cancer (IARC) has concluded that this product is not classifiable as to its carcinogenicity to humans. Epidemiological studies of roofers have generally demonstrated an excess of lung cancer in these workers. However, it is unclear to what extent these cancers may be attributable to asphalt exposures during roofing operations, since in the past, roofers have been exposed to coal tar and asbestos, which are known human lung carcinogens. Although strong epidemiological evidence exists of an association between lung cancer and working as a roofer, it is uncertain whether exposure to asphalt is related to this association. Trace amounts of polynuclear aromatic hydrocarbons (PAHs) may be present in some asphalts and can be released upon excessive heating. Some of these PAHs have been identified as having the potential to induce carcinogenic and reproductive health effects. (2)

Crystalling Silica:

Breathable crystalline silica from sand is not expected to be released, sand is adhered to product. Crystalline silica is considered a hazard by inhalation. The International Agency for Research on Cancer (IARC) classified crystalline silica in quartz form coming from professional exposure carcinogenic for human (Group 1). (3)

Fibreglass Filament:

Fibreglass is not expected to be released. In October 2001, IARC classified fibreglass as Group 3 "not classifiable as to its carcinogenicity to humans". The 2001 decision was based on current human and animal research that shows no association between inhalation exposure to dust from fibreglass wool and the development of respiratory disease. This is a reversal of the IARC finding in 1987 of a Group 2B designation (possibly carcinogenic to humans) based on earlier studies in which animals were injected with large quantities of fibreglass. NTP and ACGIH have not yet reviewed the IARC reclassification of the most current fibreglass health research. At this time, both agencies continue to classify glass wool based on the earlier animal injection studies.

No information available about the other products.

TERATOGENICITY, EMBRIOTOXICITY, FETOTOXICITY:

No information available.

REPRODUCTIVE TOXICITY:

No information available.

MUTAGENICITY:

No information available.

TOXICILOGICALLY SYNERGISTIC MATERIALS:

No information available.

POTENTIAL ACCUMULATION:

No information available.

SECTION IV. FIRST AID MEASURES

SKIN CONTACT:

If there is presence of dust on the skin, wash gently with water and soap. In the event of contact with the product melted, do not try to remove the product of the affected area and rinse the area affected in cold water. Obtain immediate medical attention. At the end of each working day, clean all the parts of the body which came into contact with asphalt fumes. Clean the clothing contaminated by the asphalt fumes.

EYE CONTACT:

Flush eyes with water at least 15 minutes while holding eyelids open. Do not attempt to remove material from affected area without medical assistance. Obtain medical attention.

INHALATION:

Remove victim from further exposure and restore breathing, if required.

INGESTION:

The ingestion of this product is not very likely to occur. In the event of ingestion, rinse the mouth with water to eliminate dust of the product and drink a lot of water to decrease the irritation.

SECTION V. FIRE-FIGHTING MEASURES

FLAMMABILITY:	Not applicable.
EXPLOSION DATA:	Not applicable.
FLASH POINT:	Not applicable.
AUTO-IGNITION TEMPERATURE:	Not applicable.
FLAMMABILITY LIMITS IN AIR: (% in volume)	Not applicable

FIRE AND EXPLOSION HAZARDS:

Self-adhesive roofing membranes do not require the use of torches therefore reducing risks of fire and explosion on job sites. Under normal conditions of use, this product is not expected to create any unusual fire or explosion hazards.

SECTION V. FIRE-FIGHTING MEASURES

COMBUSTION PRODUCTS:
Burning of this material will produce thick black smoke.

FIRE FIGHTING INSTRUCTIONS:
Irritating and/or toxic gases and fumes including hydrogen sulphide and sulphur dioxide may be generated by thermal decomposition or combustion. Approach fire from upwind. Evacuate the area and fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Wear self-contained breathing apparatus and appropriate protective clothing in accordance with standards. Move the rolls of membrane from fire area if it can be done without risk. Cool the rolls of membrane with flooding quantities of water until well after fire is out.

EXTINGUISHING MEDIA:
Foam, CO_2 powder, sand, dry chemical.

SECTION VI. ACCIDENTAL RELEASE MEASURES

RELEASE OR SPILL: Not applicable.

SECTION VII. HANDLING AND STORAGE

HANDLING:
Avoid breathing the dust and the asphalt fumes. Use under adequate ventilation conditions.

STORAGE:
Flashings must be stored in such a way to prevent any creasing, twisting, scratches and other damages of the roof. The materials must be protected adequately and stored permanently away from flames or welding sparks, protected from bad weather and any harmful substances. Store self-adhesive membranes away from the sun.

SECTION VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

HANDS:	Wear resistant gloves.
RESPIRATORY:	If the TLV to dust is exceeded, if use is performed in a poorly ventilated confined area, use an approved respirator in accordance with standards.
EYES:	Wear safety goggles in accordance with standards.
FEET:	Work shoes in accordance with standards.
BODY:	Wear adequate protective clothes.
OTHERS:	Eye bath and safety shower.

SECTION IX. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Solid
ODOUR AND APPEARANCE:	Black membrane with asphalt odour.
ODOUR THRESHOLD:	Not applicable
VAPOUR PRESSURE (20°C):	Not applicable
VAPOUR DENSITY (air = 1):	Not applicable
PERCENT VOLATILE (% by volume):	Non applicable
EVAPORATION RATE (Butyl acetate = 1):	Not applicable
BOILING POINT (760mm Hg):	Not applicable
FREEZING POINT:	Not applicable
SPECIFIC GRAVITY (H_2O = 1):	Variable
SOLUBILITY IN WATER (20°C):	Nil
COEFFICIENT WATER / OIL DISTRIBUTION:	Not applicable
VISCOSITY:	Not applicable

SECTION X. STABILITY AND REACTIVITY

STABILITY:	This material is stable.
CONDITIONS OF REACTIVITY:	Avoid excessive heat.
INCOMPATIBILITY:	Acid and strong basis and organic solvents and greasy substances.
HAZARDOUS DECOMPOSITION PRODUCTS:	None identified.
HAZARDOUS POLYMERISATION:	None

SECTION XI. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA:
No information available.

Effects of short-term (acute) exposure

No data are available about the acute toxicity for this product. Under normal use, this product is not expected to create any health hazard.

INHALATION:
No information available.

SECTION XI. TOXICOLOGICAL INFORMATION

EYE IRRITATION:
No information available.

SKIN IRRITATION:
No information available.

Effects of long-term (chronic) exposure

Under normal use, this product is not expected to create any health hazard.
Prolonged inhalation of dust may cause irritation of the nose, throat and respiratory passages. Some membranes are covered with sand which contains crystalline silica. Excessive inhalation of crystalline silica dust may cause a progressive, disabling and sometimes fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, specific chest illness and reduced pulmonary function.

CARCINOGENICITY:

Asphalt:
Data from experimental studies in animals and cultured mammalian cells indicate that laboratory-generated roofing asphalt fume condensates are genotoxic and cause skin tumours in mice when applied dermally. The absence of data to indicate that laboratory-generated roofing asphalt fume condensates are representative of field-generated fumes limits the usefulness of these data for determining the genotoxicity and potential carcinogenicity of field-generated roofing asphalt fume condensates. (2)

Crystalline Silica:
The International Agency for Research on Cancer has determined that crystalline silica inhaled in the form of quartz or cristobalite is carcinogenic to humans (Group 1 – carcinogenic to humans). Several studies have shown an increased incidence of lung tumours in rats exposed to quartz by inhalation for up to 2 years. No increase in lung tumours was observed in female mice exposed to quartz for up to 570 days. However, the ability of this study to detect carcinogenic effects was limited due to the small numbers of animals used. The International Agency for Research on Cancer (IARC) has determined that there is sufficient evidence that quartz is carcinogenic to experimental animals. (3)

Highly Hydrotreated Naphthenic Oil:
No study on the human and the animals made it possible to classify naphthenic oils highly hydrotreated as carcinogen (IARC, 1984). (1)

REPRODUCTIVE EFFECTS:
No information available.

TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY:
No information available.

MUTAGENICITY:

Crystalline Silica:
Quartz did not induce micronuclei in mice in vivo. Largely positive and some negative results have been obtained in mammalian cells (including human cells) in in vito experiments. Crystalline silica (form not specified) was not mutagenic to bacteria, with or without metabolic activation.

IRRITANT MATERIAL:
Dust generated by the product may cause light irritation of skin, eyes and respiratory tract.

SYNERGISTIC MATERIALS:
Tobacco smoke increases the severity of the effects of silica dust on respiratory impairment. Simultaneous exposure to known carcinogens, for example, benzo (a), pyrene, can increase the carcinogenicity of crystalline silica.

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.

BIODEGRADABILITY:
This product is not an environmental hazard. This product is not biodegradable, not bioaccumulative and presents no food chain concentration potential.

SECTION XIII. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:
This product is not a hazardous waste. Consult provincial regulations and federal regulations to know disposal methods. This material is not listed by the EPA as hazardous waste according to the RCRA (USA) regulations. No EPA waste numbers are applicable for this product.

SECTION XIV. TRANSPORT INFORMATION

This product is not regulated by DOT and TDG.

SECTION XV. REGULATORY INFORMATION

WHMIS:	This product is not regulated by WHMIS.
DSL:	All constituents of this product are included in the Domestic Substances List (Canada).
TSCA:	All constituents of this product are listed on the Toxic Substances Control Act Inventory (TSCA – United States).

SECTION XVI. OTHER INFORMATION

Glossary:

ACGIH:	American Conference of Governmental Industrial Hygienists
ANSI:	American National Standards Institute
CAS:	Chemical Abstract Services
CFR:	Code of Federal Regulations
DOT:	Department of Transportation
DSL:	Domestic Substances List
LC50:	(Lethal concentration$_{50}$) Concentration of a substance in air that causes dead of 50% of a defined animal population
LD50:	(Lethal dose$_{50}$) Single dose of a substance that, when administrated by a define route in an animal assay, is expected to cause the death of 50% of a defined animal population.
EPA:	Environmental Protection Agency
HMIS:	Hazardous Material Information System
NIOSH:	National Institute for Occupational Safety and Health
NFPA:	National Fire Protection Association
NTP:	National Toxicology Program
OSHA:	Occupational Safety & Health Administration
PEL:	Permissible Exposure Limit
RCRA:	Resource Conservation and Recovery Act
SARA:	Superfund Amendments and Reorganization Act
TDG:	Transportation of Dangerous Goods
TLV:	Threshold Limit Value
TWA:	Time-weighted average
TSCA:	Toxic Substances Control Act
WHMIS:	Workplace Hazardous Materials Information System

References:

(1) Material Safety Data Sheet from the supplier.
(2) NIOSH (2001) Hazard Review, Health Effects of Occupational Exposure to Asphalt. U.S. Department of Health and Human Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2001-110.
(3) CHEMINFO (2008) Canadian Centre of Organisational Health and Safety, Hamilton (Ontario) Canada

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The Material Safety Data Sheets of RESISTO Canada are available on Internet at the following site: **http://www.resisto.ca**

Justification of the update:

- Resisto has been deleted from the product name.
- Addition of the Exposure Limit (TLV-TWA) for talc. (Section II)

This MSDS contains all the information required by ANSI Z-400.1-1998 standard (United States), by regulation 29 CFR Part 1910.1200 of the Hazard Communication Standard of OSHA, and is in accordance with standard DORS/88-66 OF WHMIS Canada.

Bar Codes:

Aluminium Waterproofing Membrane:	6 23680 66540 8	6 23680 66550 7	6 23680 66555 2	6 23680 66560 6
Basic Waterproofing Membrane:	6 23680 65241 5	6 23680 65242 2		
HR Cap Sheet:	6 23680 09100 9	6 23680 09130 6	6 23680 09140 5	6 23680 09150 4
ICF Foundations Waterproofing Membrane:	6 23680 10133 3			
"Lastobond" Eaves protection Sheet, Sanded Finish:	6 23680 00166 4	6 23680 00167 1	6 23680 60160 4	
Lastobond Pro HTN:	6 23680 10107 4			
Lastobond Pro HTS:	6 23680 10108 1			
Red Zone (air/water):	6 23680 17727 7	6 23680 17730 7	6 23680 17731 4	6 23680 17732 1
	6 23680 17733 8	6 23680 17734 5		