SAFETY DATA SHEET

SOPRA-ISO
SOPRA-ISO PLUS

SECTION I: IDENTIFICATION

Use:
Insulating panel for roofing made of polyisocyanurate.

Manufacturer:
Soprema Canada
3100 Kunz Street
Drummondville (Quebec) J2C 6Y4
Canada
Tel.: 819 478-8163

Distributor:
Soprema Inc.
44055 Yale Road West
Chilliwack (BC) V2R 4H3
Canada
Tel.: 604 793-7100

Soprema USA
310 Quadral Drive
Wadsworth (Ohio) 44281
United States
Tel.: 1 800 356-3521

Soprema USA
12251 Seaway Road
Gulfport (Mississippi) 39503
United States
Tel.: 228 701-1900

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

Polyisocyanurate foam panel. This product does not present an inhalation, ingestion, or contact health hazard unless subjected to operations such as sawing, sanding, or machining that result in the generation of airborne particulates (dusts). Exposure to high dust levels may irritate the skin, eyes, nose, throat, or upper respiratory tract. Inhalation of high amounts of dust over long periods may overload lung clearance mechanisms and make lungs more vulnerable to respiratory diseases.

SECTION III: COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>NAME</th>
<th>CAS #</th>
<th>% Weight</th>
<th>EXPOSURE LIMIT (ACGIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyisocyanurate Foam</td>
<td>None</td>
<td>80-100</td>
<td>TLV-TWA: 10 mg/m³ (breathable dust)</td>
</tr>
<tr>
<td>Fibreglass</td>
<td>65997-17-3</td>
<td>7-13</td>
<td>TLV-TWA: 1 f/cc for fibres longer than 5 µm with a diameter less than 3 µm</td>
</tr>
<tr>
<td>Carbon Black</td>
<td>1333-86-4</td>
<td>1-5</td>
<td>TLV-TWA: 3 mg/m³ (breathable dust)</td>
</tr>
</tbody>
</table>

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.

Effects of Short-Term (Acute) Exposure

INHALATION
Breathing dust from this product may cause a scratchy throat, congestion, and slight coughing.

Polyisocyanurate Foam: Dust may cause transient mechanical irritation of the upper respiratory tract. (2)

Fibreglass: Airborne fragments of glass fibres may cause mechanical irritation of the upper respiratory tract, particularly mouth, nose and throat; glass dust may cause transient irritation of the upper respiratory tract. (2)

Carbon Black: Carbon black does not appear to cause significant harmful effects after a single short-term exposure, except general effects that would be expected with any fine dust (high concentrations can cause coughing and mild, temporary irritation). (1)

SKIN CONTACT
Frequent or prolonged contacts may cause skin irritation.

Polyisocyanurate Foam: Transient mechanical irritation. (2)

Fibreglass: Direct contact with rough-cut foam or felt facers can cause mechanical abrasion cuts or puncture to fingers, hands or exposed skin. (2)

Carbon Black: Carbon black is not irritating to the skin. (1)

EYE CONTACT
The dust may cause eye irritation.

Polyisocyanurate Foam, Fibreglass: Mechanical irritation, redness, tearing, and blurred vision can occur if dusts generated from these products come into contact with eyes. (2)

Carbon Black: Carbon black dust is not irritating to the eyes except as a “foreign object”. (1)

INGESTION
It is unlikely that toxic amounts of this product would be ingested with normal handling and use. (1)

Effects of Long-Term (Chronic) Exposure

SKIN CONTACT

Polyisocyanurate Foam, Fibreglass: None known.

Carbon Black: Fine particles can become embedded in the skin and trapped in hair follicles causing discoloration (carbon black “tattoos”) and follicular blackheads. (1)

EYE CONTACT

Fibreglass: None known.

INHALATION

Polyisocyanurate Foam: There is no evidence that dusts generated from this product cause disease in humans. (2)
**Fibreglass:** No chronic health effects are known to be associated with exposure to continuous filament fibreglass. (2).

**Carbon Black:** Carbon black is extremely fine and light and can be breathed deeply into the lungs, where it can accumulate. Normally the dust is cleared gradually from the lungs and has no harmful effects. However, high concentrations of dust can overwhelm the clearance capacity of the lungs, obstruct the lungs, and interfere with lung function. Symptoms may include coughing, increased phlegm production, and shortness of breath. It is unlikely that toxic amounts of this product would be ingested with normal handling and use. (1)

**NERVOUS SYSTEM EFFECTS**

**Polyisocyanurate Foam, Fibreglass, Carbon Black:** None known.

**CARCINOGENICITY**

**Polyisocyanurate Foam:** No information available.

**Fibreglass:** Results from epidemiological studies have not shown any increase in respiratory disease or cancer. The International Agency for Research on Cancer (IARC) has classified continuous filament fibreglass “Not Classifiable as to Carcinogenicity to Humans” (Group 3), (2)

**Carbon Black:** IARC has concluded that there is inadequate evidence for the carcinogenicity of carbon black to humans and that there is sufficient evidence that carbon black is carcinogenic to experimental animals. IARC has concluded that this chemical is possibly carcinogenic to humans (Group 2B). 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**

**Polyisocyanurate Foam, Fibreglass and Carbon Black:** No information available.

**REPRODUCTIVE TOXICITY**

**Polyisocyanurate Foam, Fibreglass and Carbon Black:** No information available.

**MUTAGENICITY**

**Polyisocyanurate Foam, Fibreglass and Carbon Black:** No information available.

## SECTION IV: FIRST-AID MEASURES

**SKIN CONTACT**

In case of irritation, wash skin with water and soap.

**EYE CONTACT**

Flush eyes with water for at least 15 minutes while holding eyelids open. Obtain medical attention if irritation persists.

**INHALATION**

Remove victim to fresh air. Drink water to clear throat and blow nose to remove dust. Obtain medical attention if feeling of sickness persists.

**INGESTION**

Product is not intended to be ingested or eaten. If product is ingested, irritation of the gastrointestinal tract may occur, and should be treated symptomatically. Do not induce vomiting. Rinse mouth with water to remove particles, and drink plenty of water to help reduce the irritation. [No chronic effects are expected following ingestion.]

## SECTION V: FIRE-FIGHTING MEASURES

**FLAMMABILITY:** Not applicable

**EXPLOSION DATA:** Not applicable

**FLASH POINT:** Not applicable

**AUTO-IGNITION TEMPERATURE:** Not available

**FLAMMABILITY LIMITS IN AIR:** (% in volume) Not applicable

**FIRE HAZARDS**

This product is a solid article that will burn if exposed to an ignition source of sufficient heat and intensity, or open flame, such as a welder’s torch. It should be installed with a 15-minute thermal barrier between it and the structure’s interior.

**COMBUSTION PRODUCTS**

Under certain fire conditions, combustible gases can be generated creating rapidly spreading, high intensity flames and dense, black smoke. Burning of this product can produce irritating and potentially toxic fumes and gases, including carbon monoxide and carbon dioxide; other undetermined hydrocarbon fractions could be released in small quantities.

**EXTINGUISHING MEDIA**

Carbon dioxide, dry chemical, water spray.

**SPECIAL PROCEDURES**

Wear self-contained breathing apparatus and appropriate protective clothing in accordance with standards.

## SECTION VI: ACCIDENTAL RELEASE MEASURES

**RELEASE OR SPILL:** Not applicable.

## SECTION VII: HANDLING AND STORAGE

**HANDLING:** Dust can be generated during cutting operations. Avoid dust exposures when cutting or abrading by using local or general ventilation system.

**STORAGE:** Store in a dry and well-ventilated area. Assure storage containers or areas and shipping containers are adequately ventilated. No Smoking – No Matches – No Lighters – No Welding rules should be enforced. Install according to manufacturer’s recommendations.

## SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION

**HANDS:** Wear gloves.

**RESPIRATORY:** If the TLV to dust is exceeded, if use is performed in a poorly ventilated confined area or if respiratory tract irritation occurs, use an approved respirator in accordance with standards.

**EYES:** Goggles or safety goggles with side shields are recommended.

**FEET:** Work shoes in accordance with standards.

**BODY:** If excessive dust is generated during cutting operations, wear long-sleeved, loose-fitting clothing, long pants and gloves, to reduce irritation.

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

## SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** Solid

**ODOUR AND APPEARANCE:** White or cream coloured solid with a black Fibreglass facing.

**ODOUR THRESHOLD:** Not applicable

**VAPOUR DENSITY (air = 1):** Not applicable

**EVAPORATION RATE (Butyl acetate = 1):** Not applicable

**BOILING POINT (760 mm Hg):** Not applicable

**FREEZING POINT:** Not applicable

**SPECIFIC GRAVITY (H2O = 1):** Not determined

**SOLUBILITY IN WATER (20°C):** Not soluble

**VOLATILE ORGANIC COMPOUND (V.O.C.) CONTENT:** Not applicable

**VISCOSITY:** Not applicable

## SECTION X: STABILITY AND REACTIVITY

**STABILITY:** This material is stable. Avoid sources of ignition.

**CONDITIONS OF REACTIVITY:** Stable.

**INCOMPATIBILITY:** Acetone, methyl ethyl ketone, tetrahydrofuran, chlorine, chloroform, hydrogen peroxide, ethylene dichloride, dimethyl sulfoxide and dimethyl formamide.

**HAZARDOUS DECOMPOSITION PRODUCTS:** None identified.

If burned, will produce primarily, CO, CO2, Some HCN possible under certain conditions.

**HAZARDOUS POLYMERISATION:** None
SECTION XI: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA
Polysiocyanurate Foam and Fibreglass: Not available.

Carbon Black:

- LC$_{50}$ (inhalation, rat): 6750 ppm (4-hour exposure)
- LD$_{50}$ (oral, rat): Not available
- LD$_{50}$ (dermal, rabbit): Not available

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

### INHALATION
#### Polysiocyanurate Foam: No information available.

**Fibreglass:** Many studies have been conducted to determine the potential long-term effects of fibrous glass inhalation. Although inconclusive, some research supported by the industry indicates that manufacturing plant employees who were first employed more than 30 years ago in factories that manufactured glass wool and mineral wool have an increased rate of lung cancer as compared to certain other reference populations. Similar findings were not reported regarding employees in textile fibre manufacturing plants. Animal studies have not demonstrated an increased rate of lung cancer when the animals breathed large quantities of glass fibres. Artificial implantation or injection of fine glass fibres into the chest, abdominal cavity or trachea of laboratory animals has produced cancer. (2)

**Carbon Black:** Some effects on the lower lung (alveolar thickening and atelectasis) were observed in rats following continuous inhalation of 4 mg/m$^3$ channel black for 16 days. Conflicting or insignificant results were obtained in 3 other studies. (1)

#### EYE IRRITATION
#### Polysiocyanurate Foam and Fibreglass: No information available.

**Carbon Black:** Suspensions of carbon and graphite produced no signs of inflammation even when injected into the eyes of rabbits. (1)

#### SKIN IRRITATION
#### Polysiocyanurate Foam, Fibreglass and Carbon Black: No information available.

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

### INHALATION
#### Polysiocyanurate Foam: One animal study has reported lung cancer following exposure to high levels of dust; subsequent animal studies have not shown this result. Emphysema has been produced in animals following exposure to high levels of dust. (2)

**Fibreglass:** No information available.

**Carbon Black:** Many inhalation exposure studies have been conducted in experimental animals. In general, these studies show that excessive accumulation of carbon black in the lungs can result in significant inflammatory responses (chronic bronchitis, alveolitis and alveolar proteinosis). In 2 studies, slight to moderate lung scarring (fibrosis) was observed in rats following exposure to 11.6 mg/m$^3$ and a marked fibrotic response was observed in rats following exposure to high concentrations (approximately 52.8 mg/m$^3$). Only mild fibrotic effects were observed at airborne concentrations of approximately 7.1 mg/m$^3$. Other studies have not shown fibrotic effects. IARC has suggested that the inflammatory response to an excessive lung burden of carbon black may subsequently result in fibrotic changes. Some researches have been conducted using the intratracheal route of administration. This research has not been evaluated here because of its questionable relevancy to occupational exposures. (1)

**TARGET ORGANS**

#### Polysiocyanurate Foam, Fibreglass and Carbon Black: No information available.

**CARCINOGENICITY**

#### Polysiocyanurate Foam: No information available.

**Fibreglass:** IARC classified continuous filament fibre glass as a Group 3 substance, "not classifiable as to its carcinogenicity to humans". (2)

#### Carbon Black: IARC has determined that there is sufficient evidence that carbon black is carcinogenic to experimental animals. An increased incidence of lung tumours has been observed in 3 studies using female rats, but not in male rats or in mice. No increase in skin tumours was observed following skin application of either oil suspension or water suspensions containing 10% or 20% carbon black (various types). When benzene extracts of carbon black were used, however, increases in skin tumours were observed. (1)

**REPRODUCTIVE EFFECTS**

#### Polysiocyanurate Foam, Fibreglass and Carbon Black: No information available.

**TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY**

#### Polysiocyanurate Foam, Fibreglass and Carbon Black: No information available.

**MUTAGENICITY**

#### Polysiocyanurate Foam and Fibreglass: No information available.

**Carbon Black:** Both positive and negative results have been obtained in rats in vivo studies. Positive results have been obtained in somatic cells following inhalation exposure of rats. Generally, negative results have been obtained in short-term assays using bacteria and cultured mammalian cells and in insects. (1)

SECTION XII: ECOLOGICAL INFORMATION

**ENVIRONMENTAL EFFECTS**

Do not discard residues into sewers, storm sewers, or surface waters. If accidentally released to water body, the material will float and disperse with wind and current; contain the material with booms and remove either manually or with a vacuum truck. Chemicals in this material are not expected to cause harm to aquatic or terrestrial plants or animals; however, fish or other animals may eat this product, which could obstruct their digestive tracts. (Some components of the product are not biodegradable.)

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 an incident.

SECTION XIII: DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL**

This product is not a hazardous waste. Consult local, state, provincial or territory authorities to know disposal methods. This material is not listed by the EPA as a hazardous waste as to follow RCRA (USA) regulations.

SECTION XIV: TRANSPORT INFORMATION

This product is not regulated by DOT and TDG.

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 contains 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
LD₅₀/LC₅₀: Less high lethal dose and lethal concentration published
NIOSH: National Institute for Occupational Safety and Health (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:
(2) Safety Data Sheet of the supplier.

For more information: 1 800 567-1492

The Safety Data Sheets of SOPREMA Canada are available on Internet at the following site: www.soprema.ca

Justification of the update:
- Triennial update.

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