

**SAFETY DATA SHEET**  
**ALSAN RS 281 FINISH**

GHS	PROTECTIVE CLOTHING	TRANSPORT OF DANGEROUS GOODS
		 <p style="text-align: right;"><b>PAINT RELATED MATERIAL</b> Class 3 UN1263 P.G.: II</p>

**SECTION I: IDENTIFICATION**

**Use:** Clear finish layer for Alsan RS systems

**Manufacturer / Distributors:**

<b>Soprema Canada</b> 1675 Haggerty Street Drummondville (Quebec) J2C 5P7 CANADA Tel.: 819 478-8163	<b>Soprema Inc.</b> 44955 Yale Road West Chilliwack (BC) V2R 4H3 CANADA Tel.: 604 793-7100	<b>Soprema USA</b> 310 Quadral Drive Wadsworth (Ohio) 44281 UNITED STATES Tel.: 1 800 356-3521	<b>Soprema USA</b> 12251 Seaway Road Gulfport (Mississippi) 39507 UNITED STATES Tel.: 228 701-1900
---	--	--	--

**In case of emergency:**

**SOPREMA (8:00am to 5:00pm ET): 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 vapour. May be fatal if swallowed and enters airways. Harmful if swallowed. Harmful if inhaled. May cause respiratory irritation or drowsiness or dizziness. Causes skin irritation. Causes serious eye irritation. May cause damage to the central nervous system through prolonged or repeated exposure if inhaled. May cause an allergic skin reaction.**

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. Contaminated work clothing must not be allowed out of the workplace.

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
<b>Methyl methacrylate (MMA)</b>	80-62-6	30-60	50 ppm	100 ppm
<b>2-Ethylhexyl acrylate (2-EHA)</b>	103-11-7	3-7	Not available	Not available
<b>Diisopropanol-P-toluidine (DPPT)</b>	38668-48-3	0.1-1	Not available	Not available

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

**INHALATION**

**MMA:** MMA is extremely volatile and can easily form high vapour concentration at room temperatures. Low concentrations are probably irritating to the nose, throat and respiratory tract. Higher concentrations can probably cause symptoms of CNS depression, such as headache, nausea, dizziness, drowsiness, and confusion. Very high concentrations may cause loss of consciousness and possibly death. Due to its irritating nature, MMA may cause a potentially fatal accumulation of fluid in the lungs. Symptoms may include shortness of breath, pain in the chest and difficulty breathing. Symptoms may not develop for up to 24 hours after exposure. (1)

**2-EHA:** 2-EHA is irritating to respiratory tract. (2)

**DPPT:** Irritating to the respiratory system. (2)

**SKIN CONTACT**

**MMA:** MMA is probably a mild to moderate skin irritant, based on animal information and limited human information. Mild redness was observed in approximately 16/50 volunteers, after a 48 hour exposure to cotton saturated with MMA. MMA can be absorbed through the skin but no harmful effects would be expected by this route of exposure. Repeated or prolonged skin contact can cause allergic skin sensitization. (1)

**2-EHA:** 2-EHA is a severe irritant based on animal information. (1)

**DPPT:** Prolonged contact with the product can result in skin irritation. (2)

**EYE CONTACT**

**MMA:** MMA is probably a mild to moderate eye irritant, based on animal information. (1)

**2-EHA:** 2-EHA is a very mild irritant based on animal information. (1)

**DPPT:** Irritating to eyes and respiratory system. (2)

**INGESTION**

**MMA:** Based on animal evidence, ingestion of MMA is likely to produce signs and symptoms of CNS depression. Ingestion is not a typical route of occupational exposure. (1)

**2-EHA:** May be harmful if swallowed. (2)

**DPPT:** Harmful if swallowed. (2)

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

**SKIN SENSITIZATION**

**MMA:** MMA is a skin sensitizer. There are numerous reports of allergic skin sensitization developing in people occupationally exposed to products containing MMA or MMA itself. These findings are supported by positive patch testing results. Once a person is sensitized to a material, contact with even a small amount causes outbreaks of

dermatitis with symptoms such as skin redness, itching, rash and swelling. This can spread from the hands or arms to other parts of the body. (1)

**2-EHA:** 2-EHA is a skin sensitizer based on animal information. Sensitization in humans has also been reported. Several case studies have reported dermatitis and hand eczema in workers exposed to 2-EHA in adhesives, glues, inks and other products. Positive patch test reactions were obtained for 2-EHA in many of these workers. (1)

**DPPT:** Skin sensitizing effects were not observed in animal studies. (2)

#### NERVOUS SYSTEM

**MMA:** Based on human studies and supported by animal evidence, long-term exposure to MMA can probably cause mild CNS effects (e.g. headache, nausea, dizziness). (1)

**2-EHA and DPPT:** No information available.

#### CARCINOGENICITY

**MMA:** In general, human studies have not shown convincing evidence of an increased cancer risk from exposure to MMA. One study showed increased colorectal cancer in a three groups exposed to MMA and ethyl acrylate and their volatile by-products. No conclusions can be drawn from this study due limitations such as the concurrent exposures. Negative results have been obtained in animal studies. The International Agency for Research on Cancer (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)

**2-EHA:** IARC has concluded that this chemical is not classifiable as to its carcinogenicity to humans (Group 3).

**DPPT:** No information available.

#### TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY

**MMA:** There is no human information available. MMA has not caused teratogenic or embryotoxic effects in animals at exposures which were not maternally toxic. (1)

**2-EHA and DPPT:** No information available.

#### REPRODUCTIVE TOXICITY

**MMA:** No human information available. No effects have been observed in limited animal studies. (1)

**2-EHA and DPPT:** No information available.

#### MUTAGENICITY

**MMA:** The available information does not indicate that MMA is mutagenic. (1)

**2-EHA:** 2-EHA demonstrated evidence of genotoxic activity in some assays (i.e. *In vitro* sister chromatid exchange, mouse lymphoma and *in vitro* UDS), the activity was weak and equivocal. (2)

**DPPT:** No information available.

#### TOXICOLOGICALLY SYNERGISTIC MATERIALS

**MMA:** No information available. (1)

**2-EHA and DPPT:** No information available.

#### POTENTIAL FOR ACCUMULATION

**MMA:** Probably does not accumulate. MMA is rapidly absorbed by the inhalation, oral and dermal routes of exposure and distributed throughout the body. It is metabolized to methanol and methacrylic acid, which is further metabolized and taken up in normal biochemical pathways in the body. Elimination is mainly by exhalation of carbon dioxide. (1)

**2-EHA and DPPT:** No information available.

#### RESPIRATORY SENSITIZATION

**MMA:** There is insufficient information available to conclude that MMA is a respiratory sensitizer. There are only three reliable case

reports of respiratory sensitization developing after occupational exposure to products containing MMA. This is a very small number of cases compared to the total population exposed to MMA in the workplace. Sensitized people can experience symptoms of bronchial asthma such as wheezing, difficult breathing, sneezing and runny or blocked nose at low airborne concentrations that have no effect on unsensitized people. (1)

**2-EHA and DPPT:** No information available.

### SECTION IV: FIRST-AID MEASURES

#### SKIN CONTACT

Wash with plenty of water. If skin irritation or rash 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:** Flammable liquid, Class 1B (NFPA)  
**EXPLOSION DATA:** Sensitivity to mechanical impact: No  
Sensitivity to static charge: Can accumulate static charge by flow.

**FLASH POINT:** 2°C or 35.6°F (MMA, closed cup)

**AUTO-IGNITION TEMPERATURE:** 230°C or 446°F (2-EHA)

**FLAMMABILITY LIMITS IN AIR:** (% en volume) Not available

#### FIRE AND EXPLOSION HAZARDS

This product and its vapours are easily ignited by heat, sparks or 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, CO<sub>2</sub>, methacrylic acid fumes.

#### 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

Universal foam, dry chemical powder, CO<sub>2</sub> or 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 ignition sources. Shut off source of leak if it can be done

without risk. Contain the spill. Absorb with inert material such as sand or earth. Sweep or shovel into containers with lids, use clean non-sparkling tools (sp.: plastic) to collect absorbed material. Cover and remove to appropriate well-ventilated area until disposal. Wash spill area with soap and water. Prevent entry into waterways, sewers or basements. Dispose of this product according to local environmental regulations.

## SECTION VII: HANDLING AND STORAGE

### HANDLING

This product and its vapours are extremely 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 containers.

### STORAGE

Store in a cool well-ventilated area out of direct sunlight and away from heat and ignition sources. 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 butyl rubber or nitrile gloves when mixing or applying this product.

**RESPIRATORY:** If the airborne concentration poses a health hazard, becomes irritating or exceeds recommended limits, use a NIOSH approved respirator in accordance with standards. Specific type of respirator will depend of the airborne concentration. Filtering face piece or dust mask is not acceptable for use with this product if TLV filtering levels have been exceeded.

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

**OTHERS:** Eye bath and safety shower. Workers must wear a long sleeved shirt with long pants and work boots.

**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>	Liquid
<b>ODOUR AND APPEARANCE:</b>	Clear / strong solvent odour
<b>ODOUR THRESHOLD:</b>	Not available
<b>VAPOUR DENSITY (air = 1):</b>	Heavier than air
<b>EVAPORATION RATE (Butyl acetate = 1):</b>	Not available
<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>	1.00 kg/L
<b>SOLUBILITY IN WATER (20°C):</b>	Not soluble
<b>VOLATILE ORGANIC COMPOUND (V.O.C.):</b>	13.4 g/L
<b>VISCOSITY:</b>	700 centipoises (Visco Brookfield LVT)

## SECTION X: STABILITY AND REACTIVITY

**STABILITY:** This material is stable.

**CONDITIONS OF REACTIVITY:** Avoid excessive heat.

**INCOMPATIBILITY:** Strong acids, strong oxidizing and reducing agents, basis, and halogenated compounds.

**HAZARDOUS DECOMPOSITION PRODUCTS:** During a fire, irritating/toxic gases, such as carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbon by-products and black smoke.

**CONDITIONS TO AVOID:** Open flames, sparks, electrostatic discharge, heat and other ignition sources; prolonged exposure to direct sunlight.

**HAZARDOUS POLYMERISATION:** Direct exposition to sunlight or storage temperatures over 60°C or 140°F can produce uncontrolled and exothermic polymerisation.

## SECTION XI: TOXICOLOGICAL INFORMATION

### TOXICOLOGICAL DATA

#### MMA: (1)

LC<sub>50</sub> (inhalation, rat): 7 093 ppm (4-hour exposure)

LD<sub>50</sub> (oral, rat): 3 205 mg/kg

LD<sub>50</sub> (dermal, rabbit): > 7 550 mg/kg

#### 2-EHA: (1)

LC<sub>50</sub> (male rat): > 240 ppm (4-hour exposure)

LD<sub>50</sub> (oral, rat): 5 753 mg/kg

#### DPPT: (2)

LD<sub>50</sub> (oral, rat): 100 mg/kg

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

#### INHALATION

**MMA:** One study has shown lung effects (e.g. fluid accumulation and bleeding) in rats following short-term inhalation exposure to a low concentration (100 ppm). In other studies, short-term exposure to 710 to 16 000 ppm has produced effects ranging from respiratory tract irritation, CNS depression (e.g. reduced activity, respiratory depression, and unconsciousness) and lung damage to deaths in rats, mice, rabbits and guinea pigs. (1)

**DPPT:** Inhalation-risk test (IRT) showed no mortality within 8 hours as shown in animal studies. The inhalation of a highly saturated vapour-air mixture represents no acute hazard. (2)

**2-EHA:** No information available.

#### EYE IRRITATION

**MMA:** MMA is a moderate to severe eye irritant. (1)

**2-EHA:** 2-EHA is a very mil irritant. (1)

**DPPT:** BASF-Test on rabbits showed that DPPT is slightly irritating. (2)

#### SKIN IRRITATION

**MMA:** There is insufficient information to conclude that MMA is a skin irritant. Unconfirmed studies have shown moderate to severe irritation. (1)

**2-EHA:** 2-EHA is a severe irritant. In a test conducted according to OECD guidelines, application of 2-ethylhexyl acrylate, covered, for 4 hours caused severe irritation in rabbits (maximum average scores at 24 hours: erythema: 3.2/4; oedema 2.7/4; average scores at 24 and 72 hours: erythema: 3/4; oedema: 1.95/4). The severity of reaction increased in 1/6 rabbits resulting in superficial chemical burns after 72 hours when the test was ended. (1)

**DPPT:** BASF-Test on rabbits showed that DPPT is non-irritating. (2)

#### SKIN CONTACT

**MMA:** Extremely high dermal doses (18 900 or 37 800 mg/kg) have produced temporary signs of CNS depression in rabbits. No signs of toxicity were observed in rabbits treated dermally with up to 5 000 mg/kg, under cover, for 24 hours. (1)

**2-EHA and DPPT:** No information available.

#### INGESTION

**MMA:** Symptoms of CNS depression (increased, then decreased, respiratory rate, motor weakness, loss of reflexes, coma and death)

have been reported in rats and rabbits following ingestion of very high doses (6 600-18 900 mg/kg). (1)

**2-EHA and DPPT:** No information available

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

##### **INHALATION**

**MMA:** Dose-related nasal lesions (including tissue death) and lung damage (inflammation and fibrosis) have been consistently observed in rats and mice exposed by inhalation in long-term studies. In one study, rats exposed to 1 000 ppm for 56 hours over 7 days showed adverse effects on the lungs (fibrosis and fluid accumulation). Decreased body, ovary, thyroid and adrenal gland, liver and kidney weights have also been observed. In one study, body, lung and spleen weights were decreased in male rats exposed to 116 ppm for 3 or 6 months. Deaths have occurred in rats and mice with exposures to 3 000 or 5 000 ppm for 14 weeks. (1)

**2-EHA and DPPT:** No information available.

##### **SKIN CONTACT**

**MMA:** A local neurotoxic effect was the only effect observed in male rats exposed dermally for 8 weeks. (1)

**2-EHA and DPPT:** No information available.

##### **INGESTION**

**MMA:** Increased kidney weights were observed in female rats fed a high dose (775 mg/kg/day) for 2 years. No effects were seen in males fed up to 950/mg/kg/day or in females fed 3 or 25 mg/kg/day. Behavioural effects and 3 deaths were observed in male rats administered 500 mg/kg daily for 21 days. Doses of 100 and 200 mg/kg had no effect on behaviour. (1)

**2-EHA and DPPT:** No information available.

##### **CARCINOGENICITY**

**MMA:** Negative results were obtained in mice and male rats exposed by inhalation to 500 or 1 000 ppm, and in female rats exposed to 250 or 500 ppm for 102 weeks. Negative results were also obtained in rats following dermal application of MMA for 16 weeks (3 days/week).(1) There is no information available.

**2-EHA and DPPT:** No information available.

##### **TERATOGENOCITY, EMBRYOTOXICITY, FETOTOXICITY**

**MMA:** Methyl methacrylate did not produce developmental effects in one well-conducted study. The other studies located have limitations, such as incomplete evaluation of maternal toxicity, incomplete reporting, and the use of very high exposure levels. In a well-conducted study, rats were exposed to 0, 99, 304, 1 178 or 2 028 ppm methyl methacrylate (99.9% pure) on days 6-15 of pregnancy (6 hours/day). Treatment-related reductions in maternal body weight and food consumption were noted at all exposure levels. No developmental effects were noted at any concentration. (1)

**2-EHA and DPPT:** No information available.

##### **MUTAGENICITY**

**MMA:** The available information does not indicate that MMA is mutagenic. In vivo studies with rats and mice exposed by inhalation or ingestion have been negative. (1)

**DPPT:** The substance was not mutagenic in bacteria. (2)

**2-EHA:** No information available

##### **SKIN SENSITIZATION**

**MMA:** Skin sensitization as been produced in guinea pigs, using standards tests, in numerous studies.

**2-EHA:** 2-EHA is a skin sensitizer. (1)

**DPPT:** Skin sensitizing effects were not observed in animal studies and Guinea pig maximization test. (2)

##### **REPRODUCTIVE TOXICITY**

**MMA:** No effects on fertility were noted in male mice exposed by inhalation to 100, 1 000 or 9 000 ppm MMA for 5 days and then mated for 8 weeks. (1)

**2-EHA and DPPT:** No information available.

#### **SECTION XII: ECOLOGICAL INFORMATION**

##### **ENVIRONMENTAL EFFECTS**

Do not allow product or runoff from fire control to enter grounds, basements, 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 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 considered a hazardous material. Consult local, state, provincial, territory or federal authorities to know disposal methods.

#### **SECTION XIV: TRANSPORT INFORMATION**

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

**IDENTIFICATION NUMBER:** UN 1263

**SHIPPING NAME:** Paint related material

**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 in the Domestic Substances List (DSL – Canada).

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

**Proposition 65:** This product does not contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

#### **SECTION XVI: OTHER INFORMATION**

##### **GLOSSARY**

**ACGIH:** American Conference of Governmental Industrial Hygienists (United States)

**ANSI:** American National Standards Institute (United States)

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

**CAS:** Chemical Abstract Services

**CFR :** Code of Federal Regulations (United States)

**CSA:** Canadian Standardization Association

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

**DSL:** Domestic Substances List (Canada)

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

**GHS** Globally Harmonized System

**IARC:** International Agency for Research on Cancer

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

**NFPA:** National Fire Protection Association (United States)

**NIOSH:** National Institute for Occupational Safety and Health (United States)

**NTP:** National Toxicology Program (United States)

**OSHA:** Occupational Safety & Health Administration (United States)

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

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

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

**TSCA:** Toxic Substances Control Act (United States)

**Reference:**

- (1) CHEMINFO (2015) Canadian Centre for Occupational Health and Safety, Hamilton (Ontario) Canada
- (2) Suppliers safety data sheets

**Code of SDS:** CA U DRU SS FS 164  
**For more information:** 1-800-567-1492

The Safety Data Sheets of SOPREMA are available on Internet at the following sites: [www.soprema.ca](http://www.soprema.ca) and [www.soprema.us](http://www.soprema.us)

**Justification of the 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.