SAFETY DATA SHEET

1. Identification

Material name: TPO LV SINGLE PLY BONDING ADHESIVE 5 GL
Material: 505215 805

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Tremco U.S. Roofing
3735 Green Road
Cleveland OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 1

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Toxic to reproduction	Category 2

Unknown toxicity - Health

Acute toxicity, oral	38 %
Acute toxicity, dermal	38 %
Acute toxicity, inhalation, vapor	87 %
Acute toxicity, inhalation, dust or mist	99.55 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	47.5 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement: Extremely flammable liquid and vapor.
Causes skin irritation.
Causes serious eye irritation.
Suspected of damaging fertility or the unborn child.
Harmful to aquatic life.

Precautionary Statement:

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: If in eyes: 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/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. Specific treatment (see this label). Take off contaminated clothing. In case of fire: Use … to extinguish.

Storage: Store in well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Methyl acetate	79-20-9	30 - 60%
Toluene	108-88-3	10 - 30%
Methanol	67-56-1	0.5 - 1.5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Take off immediately all contaminated clothing. Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Get medical attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation. Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.

Indication of immediate medical attention and special treatment needed

Treatment: Get medical attention if symptoms occur.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling: Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Take precautionary measures against static discharges. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with skin. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store in a well-ventilated place. Store in a cool place. Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Methyl acetate	TWA	200 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	250 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	200 ppm 610 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Toluene	TWA	20 ppm	US. ACGIH Threshold Limit Values (2011)
	TWA	200 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	Ceiling	300 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	MAX. CONC	500 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
Methanol	TWA	200 ppm	US. ACGIH Threshold Limit Values (2011)

	STEL	250 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	200 ppm 260 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Chemical name	**type**	**Exposure Limit Values**	**Source**
Methyl acetate	TWA	200 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	STEL	250 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Methyl acetate	TWAEV	200 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEL	250 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Methyl acetate	TWA	200 ppm 606 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	250 ppm 757 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Toluene	TWA	20 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Toluene	TWAEV	20 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Toluene	TWA	50 ppm 188 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Toluene (o-Cresol, with hydrolysis: Sampling time: End of shift.)	0.3 mg/g (Creatinine in urine)	ACGIH BEL (03 2013)
Toluene (toluene: Sampling time: Prior to last shift of work week.)	0.02 mg/l (Blood)	ACGIH BEL (03 2013)
Toluene (toluene: Sampling time: End of shift.)	0.03 mg/l (Urine)	ACGIH BEL (03 2013)
Methanol (methanol: Sampling time: End of shift.)	15 mg/l (Urine)	ACGIH BEL (03 2013)

Appropriate Engineering Controls Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof ventilation equipment.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures:	Avoid contact with eyes. Observe good industrial hygiene practices. When using do not smoke. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Avoid contact with skin. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Yellow
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	-13 °C 9 °F(Closed Cup)
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	0.964
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Heat, sparks, flames.

Incompatible Materials:	Strong acids. Avoid contact with oxidizing agents (e.g. nitric acid, peroxides and chromates). Strong bases.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes skin irritation.
Eye contact:	Causes serious eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 13,777.78 mg/kg

Dermal
Product: No data available.

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):

Methyl acetate	in vivo (Rabbit): Irritating
Toluene	in vivo (Rabbit, 24 - 72 hrs): Not irritating
Methanol	in vivo (Rabbit, 24 hrs): Not irritating

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):

Methyl acetate	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 295 - 348 mg/l Mortality
Toluene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 71.7 - 82.8 mg/l Mortality
Methanol	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 28,200 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Toluene	LC 50 (Water flea (Daphnia magna), 24 h): 240 - 420 mg/l Mortality EC 50 (Water flea (Daphnia magna), 48 h): < 9.83 mg/l Intoxication
Methanol	LC 50 (Water flea (Daphnia magna), 24 h): 3,616 - 6,414 mg/l Mortality EC 50 (Water flea (Daphnia magna), 48 h): > 10,000 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): > 10,000 mg/l Intoxication LC 50 (Water flea (Daphnia magna), 96 h): > 100 mg/l Mortality LC 50 (Oligochaete, worm (Lumbriculus variegatus), 96 h): > 100 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Toluene	NOAEL (Pimephales promelas, 32 d): 4 mg/l experimental result
Methanol	NOAEL (Oryzias latipes, 200 h): 11,850 mg/l experimental result

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

Toluene	Green algae (Selenastrum capricornutum), Bioconcentration Factor (BCF): 3,016 (Static)
Methanol	Green algae (Chlorella fusca vacuolata), Bioconcentration Factor (BCF): 28,400 (Static)

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Methyl acetate	Log Kow: 0.18

Toluene	Log Kow: 2.73
Methanol	Log Kow: -0.77

Mobility in Soil: No data available.

Other Adverse Effects: Harmful to aquatic organisms.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

UN1133, ADHESIVES, 3, PG II

CFR / DOT:

UN1133, Adhesives, 3, PG II

IMDG:

UN1133, ADHESIVES, 3, PG II

Further Information:
The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Chemical Identity	Reportable quantity
**	De minimis concentration: 1.0% One-Time Export Notification only.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Methyl acetate	100 lbs.
Toluene	1000 lbs.
Methanol	5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Methyl acetate	100 lbs.
Toluene	1000 lbs.
Methanol	5000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Methyl acetate	500 lbs
Toluene	500 lbs
Methanol	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity
Toluene

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Methyl acetate
Toluene
4-Chlorobenzotrifluoride

US. Massachusetts RTK - Substance List

Chemical Identity
Methyl acetate
Toluene

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Methyl acetate
Toluene

US. Rhode Island RTK

Chemical Identity
Toluene

Other Regulations:

Regulatory VOC (less water and exempt solvent):	242 g/l
VOC Method 310:	61.70 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	One or more components in this product are not listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	07/31/2015
Version #:	1.0
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.