



**ADVANCED**  
**CHEMICAL**  
TECHNOLOGIES, INC.

## SAFETY DATA SHEET

### SECTION 1

### MATERIAL IDENTIFICATION

**PRODUCT NAME / DESCRIPTION: ATS-100 LV**

DISTRIBUTED / MANUFACTURED BY:  
Advanced Chemical Technologies, Inc.  
9608 N Robinson  
Oklahoma City, OK 73114

Date: 10/25/2017 (Version 3)  
Phone: (405) 843-2585  
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### SECTION 2

### HAZARD IDENTIFICATION

#### CLASSIFICATION:

Flammability:	Category 4
Acute Toxicity:	Category 4
Skin Corrosion/Irritation:	Category 2

SIGNAL WORD:

**WARNING!**

#### HAZARD STATEMENTS:

Combustible liquid.  
Causes skin irritation.  
Harmful if inhaled.



#### PRECAUTIONARY STATEMENTS:

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Wash skin thoroughly after handling.

Wear protective gloves/eye protection/face protection.

Avoid breathing spray.

Use only outdoors or in well ventilated area.

Response:

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CONTROL CENTER or a doctor/physician if feeling unwell.

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash it before reuse.

Storage:

Store in a well-ventilated place. Keep cool.

Disposal:

Dispose of contents/container to an approved waste disposal plant.

Other hazards:

Vapors may form explosive mixture with air.

### **SECTION 3**

### **HEALTH HAZARDS**

<b><u>Chemical Name</u></b>	<b><u>CAS No.</u></b>	<b><u>Concentration (%)</u></b>
n-Octyltrimethoxysilane	3069-40-7	> = 90 - < = 100
Branched octyltrimethoxysilane	90552-56-0	> = 1 - < 5
Methanol	67-56-1	> = 0.1 - < 1

### **SECTION 4**

### **FIRST AID MEASURES**

General advice:	In case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt, seek medical advice.
If inhaled:	Remove to fresh air. If not breathing: give artificial respiration. If breathing is difficult: give oxygen. Get medical attention if symptoms occur.
In case of skin contact:	Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact:	Flush eyes with water. Get medical attention if irritation develops or persists.
If swallowed:	DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.
Symptoms and effects: both acute and delayed:	Causes skin irritation. Harmful if inhaled.
Protection of First Aid Responders:	Use the recommended personal protective equipment when the potential for exposure exists.
Note to physician:	Treat symptomatically and supportively.

### **SECTION 5**

### **FIRE FIGHTING MEASURES**

Suitable extinguishing media:	Water spray Alcohol resistant foam
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Unsuitable extinguishing media:	Carbon dioxide (CO <sub>2</sub> ) Dry chemical High volume water jet
Specific hazards:	Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapors may form explosive mixtures with air. Exposure to combustion products may be hazardous to health.
Hazardous combustion products:	Carbon oxides  Silicon oxides Formaldehyde
Specific extinguishing methods:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters:	In event of fire, wear self contained apparatus. Use personal protective equipment.

## **SECTION 6**

## **ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures:	Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.
Environmental precautions:	Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil carriers) Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up:	Non-sparking tools should be used. Soak up with inert absorbent material. Clean up remaining materials from spill with suitable absorbent. Suppress (knock down) gases/vapors/mists with water spray jet. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in this cleanup. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

**SECTION 7****HANDLING AND STORAGE**

Technical measures:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section
Local/Total ventilation:	Use with local exhaust ventilation.
Advice on safe handling:	Do not get on skin or clothing. Do not breathe vapors or spray mist. Do not swallow. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice. Keep container tightly closed. Keep away from water. Protect from moisture. Keep away from heat and sources of ignition. Take precautionary measures against static discharge. Take care to prevent spills, waste and minimize release to the environment.
Conditions for safe storage:	Keep in properly labeled containers. Keep tightly closed. Keep in cool, well ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.
Materials to avoid - Do not store with the following product types:	Strong oxidizing agents Explosives  Gases

**SECTION 8****EXPOSURE CONTROLS/PERSONAL PROTECTION****Ingredients with workplace parameters**

Ingredients	CAS No.	Value type (form of exposure)	Control parameters / Permissible concentration	Basis
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm	NIOSH REL
			260 mg/m <sup>3</sup>	
		ST	250 ppm	NIOSH REL
		TWA	325 mg/m <sup>3</sup>	
		TWA	200 ppm	OSHA Z-1
			260 mg/m <sup>3</sup>	

**Hazardous components without workplace controls**

Ingredients	CAS No.
n-octyltrimethoxysilane	3069-40-7
Branched octyltrimethoxysilane	90552-56-0

**Occupational exposure limits of decomposition products**

Ingredients	CAS No.	Value type	Control parameters / Permissible concentration	Basis
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		(form of exposure)		
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm	NIOSH REL
			260 mg/m <sup>3</sup>	
		ST	250 ppm	NIOSH REL
			325 mg/m <sup>3</sup>	
		TWA	200 ppm	OSHA Z-1
			260 mg/m <sup>3</sup>	

### Biological occupational exposure limits

Ingredients	CAS No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Methanol	67-56-1	Methanol	Urine	End of shift (as soon as possible after exposure ceases)	15 mg/l	ACGIH BEI

Engineering measures: Processing may for hazardous compounds (see section 10).  
Minimize workplace exposure concentrations.  
Use with local exhaust ventilation.

### Personal protective equipment

Respiratory Protection: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand Protection:

Material: Impervious gloves  
Remarks: Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of the workday.

Eye protection: Wear the following personal protective equipment:  
Safety glasses

Skin and body protection: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Wear the following personal protective equipment:  
Flame retardant antistatic protective clothing  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc.).

Hygiene measures: Ensure that eye flushing systems and safety showers are located close to the working place.  
When using, do not eat, drink or smoke.  
Wash contaminated clothing before re-use.  
These precautions are for room temperature handling. Use at elevated temperature or aerosol spray applications may require added precautions. For further information regarding use of silicones/organic oils in consumer aerosol applications, please refer to the guidance document regarding the use of these types of materials in consumer aerosol applications that has been developed by the silicone industry ([www.SEHSC.com](http://www.SEHSC.com))

## **SECTION 9**

## **PHYSICAL AND CHEMICAL PROPERTIES**

Appearance:	Liquid
Color:	Colorless to pale yellow
Odor:	Alcohol-like
Odor Threshold:	No data available
pH:	No data available
Melting point/Freezing point:	No data available
Initial boiling point and boiling range:	191.5° C
Flash Point:	66.5° C Method: Tag closed cup
Evaporation Rate:	No data available
Flammability (solid, gas, liquids):	Not applicable
Self-ignition:	The substance or mixture is not classified as pyrophoric. The substance or mixture is not classified as self-heating.
Upper Explosion Limit (UEL):	No data available
Lower Explosion Limit (LEL):	No data available
Vapor Pressure:	No data available
Relative Vapor Density:	No data available
Relative Density:	~ 0.90
Solubility(ies) - Water solubility:	No data available
Partition Coefficient: n-octanol/water	No data available
Autoignition Temperature:	No data available
Decomposition Temperature:	No data available
Viscosity, kinematic:	1 cSt (25° C)
Explosive properties:	Not explosive
Oxidizing properties:	The substance or mixture is not classified as oxidizing
Molecular weight:	No data available

## **SECTION 10**

## **STABILITY AND REACTIVITY**

Reactivity:	Not classified as a reactivity hazard
Chemical stability:	Stable under normal conditions

Possibility of hazardous reactions:

Combustible liquid.  
Vapors may form explosive mixture with air.  
Use at elevated temperatures may form highly hazardous compounds.  
Can react with strong oxidizing agents.  
When heated to temperatures above 150 °C (300 °F) in the presence of air, product can form formaldehyde vapors. Safe handling conditions may be maintained by keeping vapor concentrations within the occupational exposure limit for formaldehyde.  
Formaldehyde may cause cancer. It is also toxic by inhalation, skin absorption and ingestion, corrosive to skin and eyes, and may cause skin sensitization and respiratory irritation. (See OSHA formaldehyde standard 29 CFR 1910.1048).  
Hazardous decomposition products will be formed upon contact with water or humid air.  
Hazardous decomposition products will be formed at elevated temperatures.

Conditions to avoid:

Exposure to moisture.  
Heat, flames, sparks.

Incompatible materials:

Oxidizing agents  
Water

Hazardous decomposition products:

Contact with water or humid air: Methanol

Thermal decomposition: Formaldehyde

## **SECTION 11**

## **TOXICOLOGICAL INFORMATION**

### **Information on likely routes of exposure**

Inhalation  
Skin contact  
Ingestion  
Eye Contact

### **Acute toxicity**

Harmful if inhaled

### **Product:**

Acute oral toxicity: Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: 3.88 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity: Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

### **Ingredients:**

### **n-Octytrimethoxysilane**

Acute oral toxicity: LD50 (Rat): > 3,500 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: Information taken from reference works and literature.

Acute inhalation toxicity: LD50 (Rat): 3.9 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Remarks: Based on test data

### **Branched Octytrimethoxysilane**

Acute oral toxicity: LD50 (Rat): > 3,500 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: Based on data from similar materials.

Acute inhalation toxicity: LD50 (Rat): 3.9 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Remarks: Based on data from similar materials.

### **Methanol**

Acute oral toxicity: Acute toxicity estimate (Humans): 300 mg/kg  
Method: Expert judgment

Acute inhalation toxicity: Acute toxicity estimate (Humans): 3 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Method: Expert judgment

Acute dermal toxicity: Acute toxicity estimate (Humans): 300 mg/kg  
Method: Expert judgment

### **Skin corrosion/irritation**

Causes skin irritation

### **Ingredients**

#### **n-Octytrimethoxysilane**

Species: Rabbit  
Result: Skin irritation  
Remarks: Based on test data

#### **Branched Octytrimethoxysilane**

Species: Rabbit  
Result: Skin irritation  
Remarks: Based on data from similar materials.

### **Methanol**

Species: Rabbit  
Result: No skin irritation

### **Serious eye damage/eye irritation**



Not classified based on available information

### **Ingredients**

#### **n-Octytrimethoxysilane**

Species: Rabbit  
Result: No eye irritation  
Remarks: Based on test data

#### **Branched Octytrimethoxysilane**

Species: Rabbit  
Result: No eye irritation  
Remarks: Based on data from similar materials.

#### **Methanol**

Species: Rabbit  
Result: No eye irritation

#### **Respiratory or skin sensitization**

Skin sensitization: Not classified based on available information.  
Respiratory sensitization: Not classified based on available information.

### **Ingredients**

#### **Methanol**

Test type: Maximization Test (GPMT)  
Routes of exposure: Skin contact  
Species: Guinea pig  
Result: Negative

#### **Germ cell mutagenicity**

Not classified based on available information

### **Ingredients**

#### **n-Octytrimethoxysilane**

Genotoxicity in vitro

Test type: Bacterial reverse mutation assay (AMES)  
Result: Negative  
Remarks: Based on test data

#### **Branched Octytrimethoxysilane**

Genotoxicity in vitro

Test type: Bacterial reverse mutation assay (AMES)  
Result: Negative  
Remarks: Based on data from similar materials

#### **Methanol**

Genotoxicity in vitro

Test type: Bacterial reverse mutation assay (AMES)

Method:	OECD Test Guideline 471
Result:	Negative
Test type:	In vitro mammalian cell gene mutation test
Result:	Negative
Genotoxicity in vivo	
Test type:	Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species:	Mouse
Application route:	Intraperitoneal injection
Result:	Negative

### **Carcinogenicity**

Not classified based on available information

### **Ingredients**

#### **Methanol**

Species:	Mouse
Application Route:	Inhalation (vapor)
Exposure time:	18 months
Result:	Negative

#### **IARC**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### **OSHA**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### **NTP**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### **Reproductive toxicity**

Not classified based on available information

### **Ingredients**

#### **Methanol**

##### Effects on fertility

Test type:	Fertility/early embryonic development
Species:	Mouse
Application route:	Ingestion
Result:	Negative

##### Effects on fetal development

Test type:	Embryo-fetal development
Species:	Mouse
Application route:	Ingestion
Result:	Positive
Remarks:	The effects were seen only in maternally toxic doses

### **STOT - single exposure**

Not classified based on available information

## Ingredients

### **Methanol**

Target Organs: Eyes, Central Nervous System  
Assessment: Causes damage to organs

### **STOT - repeated exposure**

Not classified based on available information

## Ingredients

### **Methanol**

Species: Rat  
NOAEL: 1.06 mg/l  
Application route: Inhalation (vapor)  
Exposure time: 90 d

### **Aspiration toxicity**

Not classified based on available information

## **SECTION 12**

## **ECOLOGICAL INFORMATION**

### **Ecotoxicity**

#### Ingredients

##### **Methanol**

Toxicity to fish	LC50 (Lepomis macrochirus (Bluegill sunfish)): >15,400 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 (Daphnia magna (Water flea)): >10,000 mg/l Exposure time: 48 h
Toxicity to algae	EC50 (Pseudokirchneriella subcapitata (green algae)): 22,000 mg/l Exposure time: 96 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	NOEC (Oryzias latipes (Orange-red killifish)): 15,800 mg/l Exposure time: 200 h
Toxicity to microorganisms	IC50: > 1,000 mg/l Exposure time: 3 h

### **Persistence and degradability**

#### Ingredients

##### **Methanol**

Biodegradability:  
Result: Readily biodegradable  
Biodegradation: 95%  
Exposure time: 20 d

### **Bioaccumulation potential**

#### Ingredients

##### **Methanol**

Bioaccumulation

Species:	Leuciscus idus (Golden orfe)
	Bioconcentration factor (BCF): < 10
Partition coefficient: n-octanol/water:	Log Pow: -0.77
<b>Mobility in soil:</b>	No data available
<b>Other adverse effects:</b>	No data available

## **SECTION 13**

## **DISPOSAL CONSIDERATIONS**

### **Disposal methods**

Resource Conservation and Recovery Act (RCRA):	This product has been evaluated for RCRA characteristics and does not meet the criteria of hazardous waste if discarded in its purchased form.
Waste from residues:	Dispose of in accordance with local regulations.
Contaminated packaging:	Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and can cause injury and/or death. If not otherwise specified: Dispose of as unused product.

## **SECTION 14**

## **TRANSPORT INFORMATION**

### **International Regulation**

#### **UNRTDG**

Not regulated as a dangerous good.

#### **IATA-DGR**

Not regulated as a dangerous good

#### **IMDG-Code**

Not regulated as a dangerous good.

#### **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

### **Domestic Regulation**

#### **49 CFR**

UN/ID/NA number:	NA 1993
Proper shipping name:	COMBUSTIBLE LIQUID, N.O.S. (Methanol, Oct-1-ene)
Class:	CBL
Packing Group:	III
Labels:	None
ERG Code:	128
Marine Pollutant:	No
Remarks:	Above applies only to containers over 119 gallons or 450 liters.

**EPCRA - Emergency Planning and Community Right-to-Know  
CERCLA Reportable Quantity**

Ingredients	CAS No.	Component RQ (lbs.)	Calculated Product RQ (lbs)
Methanol	67-56-1	5000	*

\*: Calculated RQ exceeds reasonably attainable upper limit

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with section 304 EHS RQ.

**SARA 311/312:**

Fire Hazard  
Acute health hazard

**SARA 302:**

No chemicals in this material are subject to the reporting requirements SARA Title III, Section 302.

**SARA 313:**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**U.S. State Regulations**

**Pennsylvania Right-to-Know**

n-Octyltrimethoxysilane	3069-40-7	90 – 100 %
Branched Octyltrimethoxysilane	90552-56-0	1 – 5 %
Methanol	67-56-1	0.1 – 1 %

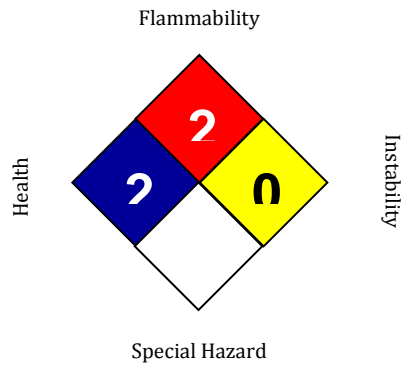
**California Prop 65**

Warning:	This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.
Methanol:	67-56-1

**The ingredients in this product are reported in the following inventories:**

NZIoC (New Zealand):	One or more ingredients are not listed or exempt.
REACH (European Union):	All ingredients (pre-) registered or exempt.
TSCA (United States of America):	All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.
AICS (Australia):	All ingredients listed or exempt.
IECSC (China):	All ingredients listed or exempt.
ENCS/ISHL (Japan):	
KECI (Korea);	One or more ingredients are not listed or exempt.
DSL (Canada):	Canadian Domestic Substances List (DSL).
TCSI (Taiwan):	All ingredients listed or exempt.

## NFPA:



## HMIS III:

<b>HEALTH</b>	<b>2</b>
<b>FLAMMABILITY</b>	<b>2</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

**0 = not significant**  
**1 = slight**  
**2 = moderate**  
**3 = high**  
**4 = extreme**  
**\* = chronic**

THIS INFORMATION IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EXPRESSED OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND SAFE HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE AND DETERMINE WHETHER THEY ARE APPROPRIATE.