



ADVANCED
CHEMICAL
TECHNOLOGIES, INC.

SAFETY DATA SHEET

SECTION 1

MATERIAL IDENTIFICATION

PRODUCT NAME / DESCRIPTION: ATS-200

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

Date: 12/28/2016 (Version 3)
Phone: (405) 843-2585
Emergency Phone: (800) 255-3924

SECTION 2

HAZARD IDENTIFICATION

CLASSIFICATION:

Flammability:	Category 4
Skin Irritation:	Category 2

SIGNAL WORD:

WARNING!

HAZARD STATEMENTS:

Combustible liquid.
Causes skin irritation.



PRECAUTIONARY STATEMENTS:

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Avoid breathing spray.
Wash skin thoroughly after handling.
Use only outdoors or in well ventilated area.
Wear protective gloves/eye protection/face protection.

Response:

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

Chemical Name
Triethoxyisobutylsilane

CAS No.
17980-47-1

Concentration (%)
> = 90 - < = 100

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. 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 as a precaution. 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.
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 Carbon dioxide (CO ₂) Dry chemical
Unsuitable extinguishing media:	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 breathing 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 barriers) 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.

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. Clean up remaining materials from spill with suitable absorbent.
 Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. 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.
 Avoid inhalation of vapor or 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 control parameters

Contains no substances with occupational exposure limit values.

Hazardous components without workplace controls

Ingredients	CAS No.
Triethoxyisobutylsilane	17980-47-1

Occupational exposure limits of decomposition products

Ingredients	CAS No.	Value type (form of exposure)	Control parameters / Permissible concentration	Basis
Ethanol	64-17-5	TWA	1,000 ppm	NIOSH REL
			1,900 mg/m ³	
		TWA	1,000 ppm	OSHA Z-1
			1,900 mg/m ³	
		STEL	1,000 ppm	ACGIH

Engineering measures: Processing may for hazardous compounds (see section 10).
 Ensure adequate ventilation, especially in confined areas.
 Minimize workplace exposure concentrations.

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	Chemical resistant 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. Take note that the product is flammable, which may impact the selection of hand protection. 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).

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:	186° C
Flash Point:	61° C Method: Seta closed cup
Evaporation Rate:	No data available
Flammability (solid, gas):	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:	0.88
Solubility(ies) - Water solubility:	No data available
Partition Coefficient: n-octanol/water	No data available
Autoignition Temperature:	240° C
Decomposition Temperature:	No data available
Viscosity, kinematic:	0.9 cSt
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. 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:	Ethanol
Thermal decomposition:	Formaldehyde

SECTION 11**TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

Inhalation
Skin contact
Ingestion
Eye Contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity: LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity.
Remarks: Based on test data

Ingredients:**Triethoxyisobutylsilane**

Acute oral toxicity: LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity.
Remarks: Based on test data

Skin corrosion/irritation

Causes skin irritation

Ingredients**Triethoxyisobutylsilane**

Result: Skin irritation
Remarks: Based on harmonized classification in EU regulation 1272/2008, Annex VI

Serious eye damage/eye irritation

Not classified based on available information

Respiratory or skin sensitization

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

Product:

Assessment: Does not cause skin sensitization.
Test type: Maximization Test (GPMT)
Species: Guinea pig
Remarks: Based on test data

Ingredients**Triethoxyisobutylsilane**

Assessment: Does not cause skin sensitization.
Test type: Maximization Test (GPMT)

Remarks: Based on test data
Germ cell mutagenicity Not classified based on available information.
Product:
 Genotoxicity in vitro:
 Test type: Mutagenicity (in vitro mammalian cytogenetic test)
 Remarks: Based on test data
 Genotoxicity in vivo:
 Test type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
 Species: Mouse
 Application Route: Intraperitoneal injection
 Result: Negative
 Remarks: Based on test data
 Germ cell mutagenicity assessment: Animal testing did not show any mutagenic effects.

Ingredients:

Triethoxyisobutylsilane:

Genotoxicity in vitro:
 Test type: Mouse Lymphoma
 Result: Negative
 Remarks: Based on test data
 Genotoxicity in vivo:
 Test type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
 Species: Mouse
 Result: Negative
 Remarks: Based on test data
 Germ cell mutagenicity assessment: Animal testing did not show any mutagenic effects.

Carcinogenicity

Not classified based on available information.

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 possible 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.

STOT - single exposure:

Not classified based on available information.

STOT - repeated exposure:

Not classified based on available information.

Aspiration toxicity:

Not classified based on available information.

SECTION 12

ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to algae: EC50 (Selenastrum capricornutum (green algae)): > 100 mg/l
 Exposure time: 96 h

Ingredients

Triethoxyisobutylsilane

Toxicity to algae: EC50 (Selenastrum capricornutum (green algae)): > 100 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201
 Remarks: Based on test data
 Toxicity to microorganisms: NOEC: > 1,000 mg/l
 Exposure time: 3 h
 Method: OECD Test Guideline 209
 Remarks: Based on test data

Persistence and degradability:

No data available

Bioaccumulation potential:

No data available

Mobility in soil:

No data available

Other adverse effects: 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 or cause injury and/or death.
If not otherwise specified, dispose of 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.
(Triethoxyisobutylsilane)
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. Not regulated if shipped in packages less than or equal to 119 gallons or 450 liters.

SECTION 15

REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

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 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

Triethoxyisobutylsilane 17980-47-1 90 – 100 %

California Prop 65

This product does not contain any chemicals known in the State of California to cause cancer, birth defects or other reproductive defects.

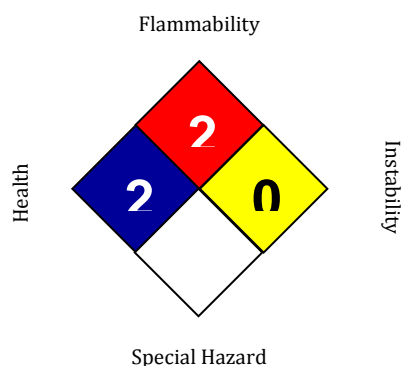
The ingredients in this product are reported in the following inventories:

NZIoC (New Zealand):	All ingredients 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 exempt 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):	All components are listed on ENCS/ISHL or exempt from inventory listing.
KECI (Korea):	All ingredients listed or exempt or notified.
DSL (Canada):	All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).
PICCS (Philippines):	All ingredients listed or exempt.

SECTION 16

OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	2
PHYSICAL HAZARD	0

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.