



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: 05/03/2017 (Version 4)
Phone: (405) 843-2585
Emergency Phone: (800) 255-3924

SECTION 2

HAZARD IDENTIFICATION

CLASSIFICATION:

Flammability:	Category 4
Skin Irritation:	Category 2
Acute Aquatic Toxicity	Category 3

SIGNAL WORD:

WARNING!

HAZARD STATEMENTS:

Combustible liquid.
Causes skin irritation.
Harmful to aquatic life.



PRECAUTIONARY STATEMENTS:

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Wash skin thoroughly after handling.
Avoid release into the environment.
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.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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**

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Concentration (%)</u>
Triethoxysilylsilane	17980-47-1	> = 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.
Conditions for safe storage:	Take care to prevent spills, waste and minimize release to the environment. 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

Other Information

Contains no substances with occupational exposure limit values.

Exposure Controls

Engineering measures: Provide adequate ventilation, especially in confined areas.

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:

Glove Material:	For example: Polychloroprene (PCP)
Material Thickness:	0.5 mm
Breakthrough Time:	> = 480 min
Glove Material:	For example: Fluorinated rubber (FKM)
Material Thickness:	0.4 mm

Breakthrough Time:	> = 480 min
Method:	Source: GES TIS substance database (hazardous substance information system of commercial professional associations) Use Impermeable gloves.
Remarks	The above mentioned hand protection is based on knowledge of the chemistry and anticipated uses of this product but it may not be appropriate for all workplaces. A hazard assessment should be conducted prior to use to ensure suitability of gloves for specific work environments and processes prior to use. Selection of protective gloves to meet the requirements of specific workplaces. Suitability for specific workplaces should be clarified with protective glove manufacturers. 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: Chemical splash goggles or face shield.
Skin and body protection:	A safety shower and eye wash fountain should be readily available. To identify additional personal protective equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with OSHA PPE Standard (29CFR1910.132) be conducted before using this product. 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:	Avoid contact with skin, eyes and clothing. Do not inhale vapors or aerosols. Do not eat, drink or smoke when using this product. Remove contaminated or saturated clothing. 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
Odor:	Solvent-like
Odor Threshold:	No data available
pH:	No data available
Melting point/Freezing point:	< -72° C (1013 hPa) Method: OECD TG 102
Boiling point and boiling range:	186° C (1013 hPa) Method: DIN 51 751
Flash Point:	63° C Method: DIN EN ISO 2719 (Pensky-Martens, Closed Cup)
Evaporation Rate:	Not determined
Flammability (solid, gas):	Not flammable Method: EEC method 92/69/EEC, A 12
Upper Explosion Limit (UEL):	8.47 %(V) (150° C) Method: DIN 51649
Lower Explosion Limit (LEL):	0.39 %(V) (98° C) Method: DIN 51649
Vapor Pressure:	33 PA (20° C) Method: OECD Test Guideline 104 dynamic method 49 PA (25° C) Method: OECD Test Guideline 104 dynamic method

Relative Vapor Density:	0.88 (20° C) Method: OECD Test Guideline 109
Relative Density:	ca. 0.88 g/cm ³ (20° C) Method: DIN 51757
Solubility(ies) - Water solubility:	Not Miscible. Decomposition by hydrolysis.
Partition Coefficient: n-octanol/water	log Pow: 2.0333 (measured) log Pow: > 2.03 literature
Auto ignition Temperature:	Not determined
Decomposition Temperature:	Not determined
Viscosity, dynamic:	Not determined
Viscosity, kinematic:	1.4 mm ² /s (20° C) Method: QSAR
Explosive properties:	Vapors can form explosive mixtures with air.
Metal corrosion:	Not to be expected in view of the structure

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 toxicological effects

Acute oral toxicity	LD50 Rat: > 5000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	LC50 Rat: 5.88 mg/l / 4 h / dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	LD50 Rat: > 2000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity
Skin irritation	Rabbit Skin irritation Method: OECD Test Guideline 404
Eye irritation	Rabbit No eye irritation Method: OECD Test Guideline 405
Sensitization	Maximization test Guinea pig: Does not cause skin sensitization. Method: OECD Test Guideline 406
Repeated dose toxicity	Oral Rat / 28-day NOAEL: > 1000 mg/kg Method: OECD Test Guideline 407
Assessment of STOT single exposure	Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Assessment of STOT repeat exposure	Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Risk of aspiration toxicity	No aspiration toxicity classification
Genotoxicity in vitro	Ames test Salmonella typhimurium negative Method: OECD TG 471
	chromosomal aberration Chinese hamster (V 79 -cells) negative Method: OECD TG 473
Genotoxicity in vivo	chromosomal aberration Chinese hamster (CHO K1 -cells) negative Method: OECD TG 476
	chromosomal aberration Mouse Oral negative Method: OECD TG 474
Carcinogenicity	No evidence that cancer may be caused.
carcinogenicity assessment	Contains no carcinogenic substances as defined by NTP, IARC and/or OSHA.
Toxicity to reproduction	Animal model trials have produced no evidence of fertility damage.

SECTION 12

ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 Oncorhynchus mykiss (rainbow trout): 85 mg/l / 96 h Method: OECD 203 (literature value)
Toxicity in aquatic invertebrates	EC50 Daphnia magna (Water flea): > 49.1 mg/l / 48 h Method: OECD 202
Toxicity to algae	NOEC Desmodesmus subspicatus (green algae): >= 36 mg/l / 72 h Method: OECD 201
Toxicity in terrestrial plants	EC50 Trifolium ornithopadioides: > 100 mg/kg / 17 d Method: OECD 208
	EC50 Lepidium sativum: > 100 mg/kg / 17 d Method: OECD 208
	EC50 Triticum aestivum: > 100 mg/kg / 17 d Method: OECD 208
Toxicity in other terrestrial non-mammals	LC50 Eisenia foetida foetida: > 1000 mg/kg / 14 d Method: OECD 207

Persistence and degradability

Biodegradability	Exposure time: 28 d Result: 75% Readily biodegradable. Method: OECD 301 D
------------------	---

Bio accumulative potential

Bioaccumulation	not bio accumulative
-----------------	----------------------

Mobility in soil

Mobility	Adsorption on the floor: low.
----------	-------------------------------

Other adverse effects

Further Information	The data we have at our disposal do not necessitate identification concerning environmental hazard.
---------------------	---

SECTION 13

DISPOSAL CONSIDERATIONS

Disposal considerations

Waste treatment methods	
Product	Waste must be disposed of in accordance with federal, provincial, state and local regulations. Empty containers must be handled with care due to product residue. DO

Uncleaned packaging

NOT HEAT OR CUT THE EMPTY CONTAINER WITH AN ELECTRIC OR GAS TORCH.

Do not reuse empty containers and dispose of in accordance with the regulations issued by the appropriate local authorities. If there is product residue in the emptied container, follow directions for handling on the container's label. Incorrect disposal or reuse of this container is illegal and can be dangerous.
Other countries: observe the national regulations.

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.

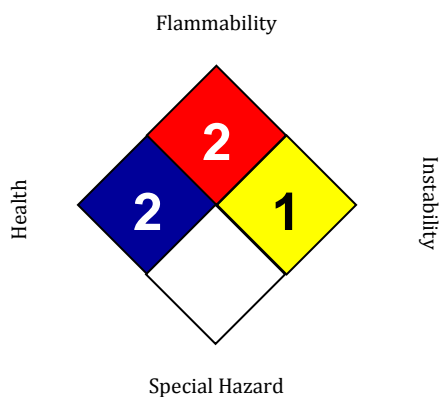
ENCS/ISHL (Japan):
KECI (Korea);
DSL (Canada):
PICCS (Philippines):

All components are listed on ENCS/ISHL or exempt from inventory listing.
All ingredients listed or exempt or notified.
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).
All ingredients listed or exempt.

SECTION 16

OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	2
PHYSICAL HAZARD	1

- 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.