

1. Identification

Product identifier	AMOLEA AS-300AT	
Other means of identification		
Product code	20181Q001	
Recommended use	Solvent	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Company name	AGC Chemicals Americas, Inc.	
Address	55 East Uwchlan Ave. Suite 201, Exton, PA 19341, USA	
(24/7) EMERGENCY NUMBER		
Global Response Access Code, AGC Chemicals America Inc.:	335342	
Europe:	+1-760-476-3961	
Asia Pacific:	+1-760-476-3960	
Middle East & Africa:	+1-760-476-3959	
US, Canada, Mexico:	+1-866-519-4752	
America (other countries):	+1-760-476-3962	

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
OSHA defined hazards	Not classified.	

Label elements



Signal word	Warning	
Hazard statement	Harmful if swallowed. Harmful if inhaled.	
Precautionary statement		
Prevention	Do not breathe dust/fume/gas/mist/vapors/spray. Avoid breathing vapors. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.	
Response	If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.	
Storage	Store away from incompatible materials.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Hazard(s) not otherwise classified (HNOC)	<p><Human health hazard></p> <p>Inhalation of vapor may cause coughing, dizziness, dullness, drowsiness, and headache. Inhalation of higher concentrations of vapor is harmful and may cause heart irregularities, central nervous system depression, narcosis, unconsciousness, respiratory failure or death. Intentional misuse can be fatal. Vapor reduces oxygen available for breathing and is heavier than air.</p> <p>Inhalation of fine aerosols or fine spray mist below a 10 micrometer can cause serious respiratory problems.</p>	
Supplemental information	None.	

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Trans-1,2-dichloroethylene		156-60-5	60 - 70
(E)-1-chloro-2,3,3-trifluoroprop-1-ene		1263679-71-5	3 - 5
(Z)-1-chloro-2,3,3-trifluoropropene		1263679-68-0	30 - 40
Stabilizer		N/A	≤ 1

4. First-aid measures

Inhalation

Oxygen or artificial respiration if needed. If a worker inhales steam or gas and feels unwell, move to a location with fresh air, rest in a posture that facilitates breathing, and contact a doctor. If breathing weakly or have stopped breathing, loosen your clothes and give artificial respiration. In some cases, administer oxygen and seek medical attention immediately.

Skin contact

Get medical advice/attention if you feel unwell.
Thoroughly flush with plenty of water and soap or skin cleanser.
Do not use solvents and thinner for wipe up.
Get medical attention if changes in appearance or pain occur.
Take off or remove contaminated clothing or shoes promptly.

Eye contact

Get medical attention immediately.
Immediately wash with plenty of clean running water for at least 15 minutes. Remove contact lenses, if present and easy to do. Wash thoroughly to the back of the eyelids.

Ingestion

Do not induce vomiting without advice from poison control center.
If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell. If swallowed, keep warm and rest, seek medical attention immediately.
Rinse mouth with water and seek medical attention promptly.

Most important symptoms/effects, acute and delayed

Not available.

Indication of immediate medical attention and special treatment needed

Keep victim warm.

5. Fire-fighting measures

Suitable extinguishing media

Water spray. Powder. The product itself does not burn.
When a surrounding fire occurs, extinguish with an appropriate extinguishing agent according to the situation.

Unsuitable extinguishing media

Not available.

Specific hazards arising from the chemical

During combustion, irritating and corrosive harmful gases (hydrogen fluoride, hydrogen chloride, carbon monoxide, carbon dioxide, Carbonyl halide, etc.) may be generated.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

When gas is ejected from the container due to overheating, be careful not to inhale toxic gas decomposed by flame. Use a gas mask.

Fire fighting equipment/instructions

Cool the container and surrounding equipment with water.
The substance is nonflammable and will not ignite, but if there is a fire around the container, move the container immediately to a safe place.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away.
Keep people away from and upwind of spill/leak.
Avoid inhalation of vapors and spray mists.
Ensure adequate ventilation.
Wear appropriate protective equipment (gloves, protective mask, apron, goggles, boots, etc.) when working.
Do not try to wipe [mop] up recklessly.
In the case of indoor treatment work, wear a gas mask and provide adequate ventilation in the room because of the danger of inhalation of high concentration gas and lack of oxygen. In case of inadequate ventilation wear respiratory equipment.

Methods and materials for containment and cleaning up

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Use water spray to reduce vapors or divert vapor cloud drift. Dike far ahead of spill for later disposal.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Collect spilled material in a sealable container and move to a safe place.
Dispose of deposits and waste based on relevant laws and regulations.
Adsorb on inert materials such as soil and dry sand and collect in a disposal container. Enclose large spills with embankment to prevent spills.

Stop leaking containers if possible without risk.
If the leak does not stop, refill it into a sealable container or move to an open and safe place.

Environmental precautions

Prevent spillage of spilled material into sewers, drains and lowlands.
Do not discharge to rivers. Be careful not to cause environmental impact.

7. Handling and storage

Precautions for safe handling

Do not taste or swallow. Avoid inhalation of vapors and spray mists. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Trans-1,2-dichloroethylene (CAS 156-60-5)	PEL	790 mg/m ³
		200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	790 mg/m ³
		200 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

AEL*: 200ppm (8h-TWA) * AEL is the Acceptable Exposure Limit set by AGC Inc.

Appropriate engineering controls

Attach emergency shower and eye washing equipment to work area and clearly display its position. When working indoors, use equipment that is not directly exposed to workers or equipment that can be protected from worker exposure using local exhaust ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles). When necessary.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. In case of contamination replace immediately. Suitable material: Polyethylene
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Wear a gas mask for organic gas.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Wash hands after handling and before eating. Keep away from food and drink.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Not available.
Color	Colorless.

Odor Faint

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 116.6 °F (47 °C)

Flash point No flash point

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Specific gravity 1.28

10. Stability and reactivity

Reactivity Polymerization reaction may occur.

Chemical stability Stable at normal temperature and pressure.

Possibility of hazardous reactions During combustion, irritating and corrosive harmful gases (hydrogen fluoride, hydrogen chloride, carbon monoxide, carbon dioxide, Carbonyl halide, etc.) may be generated.

Conditions to avoid Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Direct sunlight
. Contact with incompatible materials.

Incompatible materials Alkaline metals. Alkali earth metals. Strong bases Strong oxidizing agents.

Hazardous decomposition products carbon monoxide and carbon dioxide. Hydrogen fluoride, halo carbonyl, hydrogen chloride.

11. Toxicological information

Information on likely routes of exposure

Inhalation Harmful if inhaled.
Skin contact No adverse effects due to skin contact are expected.
Eye contact Direct contact with eyes may cause temporary irritation.
Ingestion Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Harmful if inhaled. Harmful if swallowed. Inhalation toxicity is extremely low, and under normal conditions of use, suffocation, anesthesia and liver damage are rare. Symptoms similar to general anesthesia appear when inhaling high concentrations of gas.

Components	Species	Test Results
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(E)-1-chloro-2,3,3-trifluoroprop-1-ene (CAS 1263679-71-5)

Acute

Oral

LD50	Rat	> 2000 mg/kg
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(Z)-1-chloro-2,3,3-trifluoropropene (CAS 1263679-68-0)

Acute

Oral

LD50	Rat	> 2000 mg/kg
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Trans-1,2-dichloroethylene (CAS 156-60-5)

Acute

Inhalation

Vapor

LC50	Rat	26600 ppm, 4 hr
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Oral

LD50	Rat	1392 mg/kg
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Skin corrosion/irritation Due to partial or complete lack of data the classification is not possible.

Serious eye damage/eye irritation Due to partial or complete lack of data the classification is not possible.

Respiratory or skin sensitization

Respiratory sensitization Due to partial or complete lack of data the classification is not possible.

Skin sensitization Due to partial or complete lack of data the classification is not possible.

Germ cell mutagenicity Due to partial or complete lack of data the classification is not possible.

Germ cell mutagenicity: Ames test

(E)-1-chloro-2,3,3-trifluoroprop-1-ene	(OECD471) Result: NEGATIVE
(Z)-1-chloro-2,3,3-trifluoropropene	(OECD471) Result: NEGATIVE

Germ cell mutagenicity: Chromosome Aberration

(E)-1-chloro-2,3,3-trifluoroprop-1-ene	(OECD473) (CHL) Result: NEGATIVE
(Z)-1-chloro-2,3,3-trifluoropropene	(OECD473) (CHL) Result: NEGATIVE

Carcinogenicity Due to partial or complete lack of data the classification is not possible.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Due to partial or complete lack of data the classification is not possible.

Specific target organ toxicity - single exposure Due to partial or complete lack of data the classification is not possible.

(E)-1-chloro-2,3,3-trifluoroprop-1-ene 2000 mg/kg Single oral administration
Result: No aberration

(Z)-1-chloro-2,3,3-trifluoropropene 2000 mg/kg Single oral administration
Result: Transient stagger

Specific target organ toxicity - repeated exposure Due to partial or complete lack of data the classification is not possible.

(E)-1-chloro-2,3,3-trifluoroprop-1-ene 1000 mg/kg Repeat oral administration
Result: No adverse effect
Test Duration: 7 days

(Z)-1-chloro-2,3,3-trifluoropropene 1000 mg/kg Repeat oral administration
Result: No adverse effect
Test Duration: 7 days

(E)-1-chloro-2,3,3-trifluoroprop-1-ene 1000 mg/kg/day Repeat oral administration, NOAEL
Result: No aberration in all cases.
Test Duration: 28 days

(Z)-1-chloro-2,3,3-trifluoropropene 200 - 1000 mg/kg/day Repeat oral administration,
NOAEL=200mg/kg
Result: At 1000 mg/kg, males showed decreased locomotor activity and reduced grip strength.
Test Duration: 28 days

Aspiration hazard Due to partial or complete lack of data the classification is not possible.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
(E)-1-chloro-2,3,3-trifluoroprop-1-ene (CAS 1263679-71-5)			
Aquatic			
<i>Acute</i>			
Algae	EC50	Algae	> 68 mg/l, 72 hours (Algal growth inhibition test)
Crustacea	EC50	Daphnia	55.9 mg/l, 48 hours (Immobilization Test)
Fish	LC50	Fish	88.3 mg/l, 96 hours
(Z)-1-chloro-2,3,3-trifluoropropene (CAS 1263679-68-0)			
Aquatic			
<i>Acute</i>			
Algae	EC50	Algae	> 82.5 mg/l, 72 hours NOAEC > 13.4mg/L (Algal growth inhibition test)
Crustacea	EC50	Daphnia	39.7 mg/l (Immobilization Test)
Fish	LC50	Fish	110 mg/l, 96 hours
Trans-1,2-dichloroethylene (CAS 156-60-5)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	120 - 160 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Trans-1,2-dichloroethylene 2.06

Mobility in soil No data available.

Other adverse effects Global warming potential : <1 (Measured value by National Institute of Advanced Industrial Science and Technology.)

13. Disposal considerations

Disposal instructions Not available.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products The remaining products (residual waste) should be discarded according to the law concerning waste disposal and cleaning and the prefectural / municipal regulations.
Do not flush wastewater cleaned in containers, equipment, etc. to the ground or drain.
Waste generated by wastewater treatment, incineration, etc. shall be processed or consigned according to Waste Management and Public Cleansing Act. and the related laws.
When performing consignment processing, contract with a specialized industrial waste disposer authorized by the prefectural governor.
In the case of incineration, hydrogen fluoride, hydrogen chloride, carbon monoxide and the like are generated at the time of combustion, so a facility for removing combustion gas is required.
Do not landfill or dump.

Contaminated packaging When disposing of empty containers, completely remove the contents.
Dispose of the waste under a contract with a licensed industrial waste disposal contractor.

14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

General information In case of falling under the Fire Service Law, Occupational Safety and Health Law, Poisonous and Deleterious Substances Control Law, follow the transportation method prescribed by each applicable law.
Follow the aviation laws. To comply with the provisions of the ship safety law.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated "active". Subject to SNUR at 40 CFR 721.11345

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

Not Regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Trans-1,2-dichloroethylene (CAS 156-60-5) Listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Acute toxicity (any route of exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Trans-1,2-dichloroethylene	156-60-5	60 - 70

Other federal regulations

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.

US state regulations**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Trans-1,2-dichloroethylene (CAS 156-60-5)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

Issue date	07-16-2021
Version #	01
References	Aerosol, Inhalation Toxicity, Lung Deposition, Animal Experiment, Work Environment (Isamu Tanaka)

Disclaimer

This product is an industrial product, it is not the thing which developed / manufactured assuming the medical use.

AGC Chemicals Americas, Inc.

SDS is a document for business operators. Not all materials and literature have been investigated, so there may be information leaks. In addition, the content will change due to the announcement of new knowledge and correction of the existing theory. When used for important decisions, it is recommended to examine the sources carefully and to confirm by examination. No guarantee is made for the data or evaluation described. In addition, the items described are intended for normal handling. Therefore, when handling specially, be sure to implement safety measures suitable for new applications and usages before handling. Attach this SDS when transferring this product.

up date: Section7 (2020.8) The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. AGC Chemicals Americas products cannot be used in a device where these products come into contact with internal portions of the human body, or into contact with bodily fluids to be returned to the body unless the product has been provided under a written contract which is consistent with AGC Chemicals Americas Medical Application Policy and expressly acknowledges the intended application. The product is not designed for special applications such as pharmaceutical, medical use. The information given in this safety data sheet is for safety purposes only. It is given in good faith and based on the best knowledge and experience of the company at the date of issuing. The company is not responsible for any loss or damage caused by the use of the product in applications for which it was not intended or for conditions of use to the recommendations in this safety data sheet.