Material Safety Data Sheet

Actxone™ 300

Version 2.0

Revision Date 02/20/2012 Ref. 130000115537

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Actxone™ 300
MSDS Number	:	130000115537
Product Use	:	Cleaning agent, Oxidizing agent
Manufacturer	:	DuPont 1007 Market Street Wilmington, DE 19898
Product Information	:	1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency	:	1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency	:	CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Potential Health Effects

Skin	:	May cause: Burns, Repeated or prolonged skin contact may cause allergic reactions with susceptible persons..
Eyes	:	May cause: Corrosion, Ulceration, May cause permanent eye injury if not promptly treated..
Inhalation	:	Inhalation of aerosol may cause irritation to the upper respiratory tract. Other effects may include:, Nose bleeding, Cough, Discomfort, Burns.
Ingestion	:	May cause: inflammation of the stomach (gastritis), Other effects may include:, Necrosis, Internal bleeding.

Repeated exposure

Sulfuric acid	:	Adverse effects from repeated inhalation may include: Respiratory effects Lung damage An increased risk of cancer in humans has been shown in work-place based studies. This hazard is related to exposure to the mist of the acid and not the acid solution.

Aggravated Medical Condition	:	Skin disorders, Gastrointestinal tract

Carcinogenicity

Material	IARC	NTP	OSHA
Sulfuric acid	11	X	

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Water	7732-18-5	56 - 74 %
Potassium peroxymonosulfate	10058-23-8	22 - 32 %
Potassium bisulfate	7646-93-7	3 - 8 %
Sulfuric acid	7664-93-9	2 - 3 %
Potassium sulfate	7778-80-5	1 - 2 %
Proprietary Ingredient A		<=1 %
Potassium dipersulfate	7727-21-1	<=1 %

SECTION 4. FIRST AID MEASURES

Skin contact	:	Immediately flush skin with large amounts of water. Remove contaminated clothing and shoes. Wash contaminated clothing before re-use. Consult a physician.
Eye contact	:	Rinse immediately with plenty of water and seek medical advice.
Inhalation	:	Move to fresh air. Oxygen or artificial respiration if needed. Call a physician immediately.
Ingestion	:	Do NOT induce vomiting. Drink 1 or 2 glasses of water. Call a physician immediately.
General advice	:	Never give anything by mouth to an unconscious person.

SECTION 5. FIREFIGHTING MEASURES

Flammable Properties

Flash point	:	does not flash
Thermal decomposition	:	no data available, Decomposes on heating., To avoid thermal decomposition, do not overheat.
Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Firefighting Instructions	:	Wear self-contained breathing apparatus and protective suit. The product itself does not burn. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel)	:	Evacuate personnel to safe areas. Use personal protective equipment.
Spill Cleanup	:	Clean-up methods - large spillage Dike spill. Large spills should be collected mechanically (remove by pumping) for disposal. Pick up and transfer to properly labelled containers. Clean-up methods - small spillage Flush into sewer with plenty of water.

Accidental Release Measures	:	Try to prevent the material from entering drains or water courses. Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel)	:	Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing.
Handling (Physical Aspects)	:	Keep away from heat and sources of ignition.
Storage	:	Keep in a cool, well-ventilated place. Keep away from heat. Keep away from direct sunlight. Must be stored in a container with a vented cap. Do not block opening of the vent. Do not freeze.
Storage temperature	:	< 35 °C (< 95 °F)

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls	:	Ensure adequate ventilation.
Personal protective equipment		
Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Hand protection	:	Material: Impervious gloves
Eye protection	:	Wear coverall chemical splash goggles. Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.
Skin and body protection	:	Where there is potential for skin contact, have available and wear as appropriate, impervious gloves, apron, pants, jacket, hood and boots. Remove and wash contaminated clothing before re-use.

Exposure Guidelines

Exposure Limit Values

Actxone™ 300

Pentapotassium bis(peroxymonosulphate) bis(sulphate)

AEL *	(DUPONT)	1 mg/m3 Total dust.	8 & 12 hr. TWA

Sulfuric acid

PEL:	(OSHA)	1 mg/m3	8 hr. TWA
TLV	(ACGIH)	1 mg/m3	8 hr. TWA
TLV	(ACGIH)	3 mg/m3	STEL
TLV	(ACGIH)	0.2 mg/m3	TWA Thoracic fraction.
AEL *	(DUPONT)	0.5 mg/m3	8 & 12 hr. TWA
AEL *	(DUPONT)	1.5 mg/m3	15 minute TWA

Potassium sulfate

AEL *	(DUPONT)	10 mg/m3	8 hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	Aqueous solution
Color	:	colourless, to, pink
Odor	:	none
pH	:	0.4 - 0.8
Melting point	:	no data available
Boiling point	:	no data available
Specific gravity	:	1.31

Water solubility : completely miscible

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : To avoid thermal decomposition, do not overheat. Do not freeze.

Incompatibility : Halides Heavy metals, Cyanides, Corrosive to metals such as iron, aluminium and copper.

Hazardous decomposition products : Oxygen , Sulfur dioxide , Sulfur trioxide

SECTION 11. TOXICOLOGICAL INFORMATION

Potassium peroxymonosulfate

Dermal LD50 : > 11,000 mg/kg , rabbit
Information given is based on data obtained from similar substances.

Oral LD50 : 1,129 mg/kg , rat
Information given is based on data obtained from similar substances.

Inhalation 4 h LC50 : > 5 mg/l , rat
Target Organs: Respiratory Tract
Respiratory irritation
Information given is based on data obtained from similar substances.

Skin irritation : Not tested on animals
Information given is based on data obtained from similar substances.

Eye irritation : Not tested on animals
Information given is based on data obtained from similar substances.

Skin sensitization : Did not cause sensitization on laboratory animals., guinea pig
There are rare or inconclusive reports of human skin sensitization.

Repeated dose toxicity : Inhalation
rat

Target Organs: Eyes
Pathologic changes, Eyes, corneal damage, Information given is

based on data obtained from similar substances.

Oral - gavage
rat

Reduced body weight gain, Gastrointestinal effects, Information given is based on data obtained from similar substances.

Mutagenicity : Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others.
Did not cause genetic damage in animals.
Did not cause genetic damage in cultured bacterial cells.
Information given is based on data obtained from similar substances.

Teratogenicity : Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.
Information given is based on data obtained from similar substances.

Potassium bisulfate

Oral LD50 : 2,340 mg/kg , rat

Inhalation :
Target Organs: Respiratory TractRespiratory tract irritation

Skin irritation : animals (unspecified species)

Eye irritation : animals (unspecified species)

Skin sensitization : human

Sulfuric acid

Oral LD50 : 2,140 mg/kg , rat

Inhalation 8 h LC50 : 0.03 mg/l , guinea pig

Skin irritation : human
Corrosive

Eye irritation : human
Corrosive

Skin sensitization : animals (unspecified species)
Not a skin sensitizer.

Repeated dose toxicity	:	Inhalation rat Respiratory tract damage
Carcinogenicity	:	Limited evidence of a carcinogenic effect. An increased risk of cancer in humans has been shown in work-place based studies. This hazard is related to exposure to the mist of the acid and not the acid solution.
Mutagenicity	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Reproductive toxicity	:	Evidence suggests the substance is not a reproductive toxin in animals.
Teratogenicity	:	Evidence suggests the substance is not a developmental toxin in animals.

Potassium sulfate

Dermal LD50	:	> 2,000 mg/kg , rat
Oral LD50	:	6,600 mg/kg , rat
Inhalation 4 h LC50	:	> 0.0036 mg/l , rat
Skin irritation	:	No skin irritation, human
Eye irritation	:	No eye irritation, rabbit
Skin sensitization	:	Animal test did not cause sensitization by skin contact., mouse
Repeated dose toxicity	:	Oral rat No toxicologically significant effects were found.
Carcinogenicity	:	Animal testing did not show any carcinogenic effects.
Mutagenicity	:	Evidence suggests this substance does not cause genetic damage in animals.

Reproductive toxicity	:	Animal testing showed no reproductive toxicity.
Teratogenicity	:	Animal testing showed no developmental toxicity.

Potassium dipersulfate

Dermal LD50	:	> 10,000 mg/kg , rabbit
Oral LD50	:	802 mg/kg , rat
Inhalation	:	animals (unspecified species) Symptoms: Respiratory tract irritation Target Organs: Respiratory Tract
Skin irritation	:	irritant
Eye irritation	:	irritant
Skin sensitization	:	Causes sensitization.
Mutagenicity	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity

Potassium peroxymonosulfate

96 h LC50	:	Oncorhynchus mykiss (rainbow trout) 53 mg/l Information given is based on data obtained from similar substances.
72 h EC50	:	Pseudokirchneriella subcapitata (green algae) 0.97 mg/l Information given is based on data obtained from similar substances.
48 h EC50	:	Daphnia magna (Water flea) 3.5 mg/l Information given is based on data obtained from similar substances.

Potassium bisulfate

48 h EC50	:	Daphnia magna (Water flea) > 190 mg/l Information given is based on data obtained from similar substances.

Sulfuric acid

96 h LC50	:	Lepomis macrochirus (Bluegill sunfish) 16 - 28 mg/l
24 h EC50	:	Daphnia magna (Water flea) 29 mg/l

Potassium sulfate

96 h LC50	:	Lepomis macrochirus (Bluegill sunfish) 3,550 mg/l
96 h LC50	:	Pimephales promelas (fathead minnow) > 680 mg/l
72 h EC50	:	Desmodesmus subspicatus (green algae) 1,430 mg/l
18 d EC50	:	Chlorella vulgaris (Fresh water algae) 2,700 mg/l
48 h EC50	:	Daphnia magna (Water flea) 720 mg/l

Potassium dipersulfate

48 h LC50	:	Daphnia magna (Water flea) 92 mg/l

Environmental Fate

Potassium bisulfate

Biodegradability	:	Readily biodegradable.
Bioaccumulation	:	Bioaccumulation is unlikely.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal	:	Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/provincial, and local regulations.
Environmental Hazards	:	If recycling is not practicable, dispose of in compliance with local regulations.

SECTION 14. TRANSPORT INFORMATION

DOT UN number : 3264

	Proper shipping name	:	Corrosive liquid, acidic, inorganic, n.o.s. (Potassium peroxymonosulfate)
	Class	:	8
	Packing group	:	II
	Labelling No.	:	8
	Reportable Quantity	:	1,000 lbs Sulfuric acid
IATA_C	UN number	:	3264
	Proper shipping name	:	Corrosive liquid, acidic, inorganic, n.o.s. (Potassium peroxymonosulfate)
	Class	:	8
	Packing group	:	II
	Labelling No.	:	8
IMDG	UN number	:	3264
	Proper shipping name	:	Corrosive liquid, acidic, inorganic, n.o.s. (Potassium peroxymonosulfate)
	Class	:	8
	Packing group	:	II
	Labelling No.	:	8

SECTION 15. REGULATORY INFORMATION

TSCA	:	Listed
SARA 313 Regulated Chemical(s)	:	Sulfuric acid
CERCLA Reportable Quantity	:	53,709 lbs Based on the percentage composition of this chemical in the product.: Sulfuric acid
SARA Reportable Quantity	:	53,709 lbs Based on the percentage composition of this chemical in the product.: Sulfuric acid
California Prop. 65	:	WARNING! This product contains a chemical known to the State of California to cause cancer.Sulfuric acid

PA Right to Know Regulated Chemical(s)	:	Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): Sulfuric acid
NJ Right to Know Regulated Chemical(s)	:	Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): Potassium hydrogensulphate , Sulfuric acid

SECTION 16. OTHER INFORMATION

		HMIS
Health	:	3
Flammability	:	0
Reactivity/Physical hazard	:	0
PPE	:	Personal Protection rating to be supplied by user depending on use conditions.

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Contact person	:	MSDS Coordinator, DuPont Chemicals and Fluoroproducts, Wilmington, DE 19898, (800) 441-7515

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