



TDO Cleaner (AFCO 5283)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision Date: 11/15/2024

Version: 1.2

SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Mixture

Product Name: TDO Cleaner

Product Code: AFCO 5283

Intended Use of the Product

Acid cleaner for removing titanium dioxide from food processing equipment. For professional use only.

Name, Address, and Telephone of the Responsible Party

Company

AFCO

550 Development Avenue

Chambersburg, PA 17201

T: 800-345-1329

www.afcocare.com

Emergency Telephone Number

Emergency Number : 1-800-424-9300 (CHEMTREC)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Skin Corr. 1C H314

Eye Dam. 1 H318

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :



GHS05

Signal Word (GHS-US) :

Danger

Hazard Statements (GHS-US) :

H290 - May be corrosive to metals

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

Precautionary Statements (GHS-US) :

P260 - Do not breathe vapors, mist, spray.

P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.

P280 - Wear protective gloves, protective clothing, eye protection, face protection.

P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTER or doctor/physician.

P321 - Specific treatment (see section 4).

P363 - Wash contaminated clothing before reuse.

P405 - Store locked up.

P501 - Dispose of contents/container to local, regional, national, territorial, provincial, and international regulations.

Other Hazards

Other Hazards: Contact with soft metals may evolve flammable hydrogen gas.

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Unknown Acute Toxicity (GHS-US) Not available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Name	Product identifier	% (w/w)	Classification (GHS-US)
Water	(CAS No) 7732-18-5	50-60	Not classified
Glycolic acid	(CAS No) 79-14-1	20-30	Acute Tox. 4 (oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318
Alcohols, C10-16, ethoxylated propoxylated	(CAS No) 69227-22-1	10-20	Not classified
Isopropyl alcohol	(CAS No) 67-63-0	5-10	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
Amines, N-tallow alkyltrimethylenedi-, tallates	(CAS No) 61790-55-4	1-5	Skin Corr. 1B, H314 Eye Dam. 1, H318
Ethoxylated coconut oil alkyl amine	(CAS No) 61791-14-8	0.1-1	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 2, H411

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin Contact: Remove contaminated clothing. Rinse cautiously with water for at least 30 minutes. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms and Effects Both Acute and Delayed

General: Causes severe skin burns and serious eye damage. Corrosive to eyes and skin.

Inhalation: Not usually a source of exposure.

Skin Contact: Causes severe skin burns.

Eye Contact: Causes serious eye damage.

Ingestion: Ingestion is likely to be harmful or have adverse effects. Contact may cause immediate severe irritation progressing quickly to chemical burns.

Chronic Symptoms: None expected under normal conditions of use.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. A heavy water stream may spread burning liquid.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Thermal decomposition generates: carbon oxides (CO, CO₂), nitrogen oxides. Reacts violently with strong bases. May generate explosive hydrogen gas when in contact with soft metals.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

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Firefighting Instructions: Do not breath fumes from fires or vapors from decomposition. Stop leak if safe to do so. Do not allow run-off from fire fighting to enter drains or water sources.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products Carbon oxides (CO, CO₂), nitrogen oxides.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not allow product to spread into the environment. Do not get in eyes, on skin, or on clothing

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Stop leak if safe to do so. Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to environment.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Cautiously neutralize spilled product with soda ash or lime. Absorb and/or contain spill with inert material, then place in suitable container. Ventilate area. Contact competent authorities after a spill.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Contact with soft metals may evolve flammable hydrogen gas.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep away from incompatible materials.

Incompatible Materials: Strong bases. Strong oxidizers.

Specific End Use(s)

Acid cleaner for removing titanium dioxide from food processing equipment. For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Isopropyl alcohol (67-63-0)		
Mexico	OEL TWA (mg/m ³)	980 mg/m ³
Mexico	OEL TWA (ppm)	400 ppm
Mexico	OEL STEL (mg/m ³)	1225 mg/m ³
Mexico	OEL STEL (ppm)	500 ppm
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	400 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	980 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	400 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	980 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	400 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	1225 mg/m ³

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USA NIOSH	NIOSH REL (STEL) (ppm)	500 ppm
USA IDLH	US IDLH (ppm)	2000 ppm (10% LEL)
Ontario	OEL STEL (ppm)	400 ppm
Ontario	OEL TWA (ppm)	200 ppm
Québec	VECD (mg/m ³)	1230 mg/m ³
Québec	VECD (ppm)	500 ppm
Québec	VEMP (mg/m ³)	985 mg/m ³
Québec	VEMP (ppm)	400 ppm

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. . Ensure all national/local regulations are observed.

Personal Protective Equipment: Safety glasses. Gloves. Protective goggles. Corrosion-proof clothing. Face shield.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical goggles or safety glasses. Chemical goggles or face shield.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: None usually needed.

Consumer Exposure Controls: Do not eat, drink, or smoke during use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Clear to slightly hazy, amber
Odor	: Low
Odor Threshold	: Not available
pH	: <1.0
Relative Evaporation Rate (butylacetate=1)	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: 97.8°C (208.04°F)
Flash Point	: Not flammable
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not flammable
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20°C	: Not available
Specific Gravity	: 1.07
Solubility	: Complete in water.
Partition coefficient: n-octanol/water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge.

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SECTION 10: STABILITY AND REACTIVITY

Reactivity: Thermal decomposition generates carbon oxides (CO, CO₂), nitrogen oxides. Contact with soft metals may generate explosive hydrogen gas.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous reactions will not occur under normal conditions.

Conditions to Avoid: Incompatible materials.

Incompatible Materials: Strong bases. Strong oxidizers.

Hazardous Decomposition Products: Thermal decomposition generates: Carbon oxides (CO, CO₂), nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified.

LD50 and LC50 Data: Not available.

Skin Corrosion/Irritation: Causes severe skin burns. pH: <1.0

Serious Eye Damage/Irritation: Causes serious eye damage. pH: <1.0

Respiratory or Skin Sensitization: Not classified.

Germ Cell Mutagenicity: Not classified.

Teratogenicity: Not available.

Carcinogenicity: Not classified.

Specific Target Organ Toxicity (Repeated Exposure): Not classified.

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity (Single Exposure): Not classified.

Aspiration Hazard: Not classified.

Symptoms/Injuries After Inhalation: Not classified.

Symptoms/Injuries After Skin Contact: Causes severe skin burns.

Symptoms/Injuries After Eye Contact: Causes serious eye damage.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: None expected under normal conditions of use.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Water (7732-18-5)	
LD50 Oral Rat	>90000 mg/kg
Glycolic acid (79-14-1)	
LD50 Oral Rat	1950mg/kg
Alcohols, C10-16, ethoxylated propoxylated (69227-22-1)	
LD50 Oral	>2000 mg/kg
Amines, N-tallow alkyltrimethylenedi-, tallates (61790-55-4)	
LD50 Oral	945 mg/kg
Isopropyl alcohol (67-63-0)	
LD50 Oral Rat	4396 mg/kg
LD50 Dermal Rabbit	12800 mg/kg
LC50 Inhalation Rat	16000 ppm (Exposure time: 8 h)
IARC Group	3

SECTION 12: ECOLOGICAL INFORMATION

Toxicity Not classified.

Glycolic acid (79-14-1)	
LC50 Fish 1	5000 mg/l (Exposure time: 96 h - Species: Danio rerio)
Alcohols, C10-16, ethoxylated propoxylated (69227-22-1)	
LC50 Fish 1	>1-10 mg/l

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EC50 Aquatic Invertebrates	>1-10 mg/l
EC50 Aquatic Plants	>1-10 mg/l

Amines, N-tallow alkyltrimethylenedi-, tallates (61790-55-4)

LC50 Fish 1	0.1-0.15 mg/l (Exposure time: 96 h)
EC50 Daphnia	55.7 mg/l (Exposure time: 48 h)

Isopropyl alcohol (67-63-0)

LC50 Fish 1	9640 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	13299 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Other Aquatic Organisms 1	1000 mg/l (Exposure time: 96 h - Species: Desmodesmus subspicatus)
LC50 Fish 2	11130 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Other Aquatic Organisms 2	1000 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)

Persistence and Degradability

TDO Cleaner (AFCO 5283)	
Persistence and Degradability	Not established.

Bioaccumulative Potential

TDO Cleaner (AFCO 5283)	
Bioaccumulative Potential	Not established.

Isopropyl alcohol (67-63-0)	
Log Pow	0.05 (at 25°C)

Mobility in Soil Not available.

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Sewage Disposal Recommendations: Do not empty into drains; dispose of this material and its container in a safe way.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations. RCRA Waste Code: D002 (Corrosive Material).

SECTION 14: TRANSPORT INFORMATION

14.1 In Accordance with DOT

Proper Shipping Name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (GLYCOLIC ACID)
Hazard Class : 8
Identification Number : UN 3265
Label Codes : 8
Packing Group : III
ERG Number : 153



14.2 In Accordance with IMDG

Proper Shipping Name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (GLYCOLIC ACID)
Hazard Class : 8
Identification Number : UN 3265
Packing Group : III
Label Codes : 8
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
MFAG Number : 153



14.3 In Accordance with IATA

Proper Shipping Name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (GLYCOLIC ACID)
Packing Group : III
Identification Number : UN 3265
Hazard Class : 8



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Label Codes : 8

ERG Code (IATA) : 8L

14.4 In Accordance with TDG

Proper Shipping Name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (GLYCOLIC ACID)

Packing Group : II

Hazard Class : 8

Identification Number : UN 3265

Label Codes : 8



SECTION 15: REGULATORY INFORMATION

US Federal Regulations

TDO Cleaner (AFCO 5283)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard.
Water (7732-18-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory.	
Glycolic acid (79-14-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory.	
Alcohols, C10-16, ethoxylated propoxylated (69227-22-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory.	
Amines, N-tallow alkyltrimethylenedi-, tallates (61790-55-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory.	
Ethoxylated coconut oil alkyl amine (61791-14-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory.	
Isopropyl alcohol (67-63-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory.	
Listed on United States SARA Section 313.	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 313 - Emission Reporting	1.0% (only if manufactured by the strong acid process, no supplier notification).

US State Regulations

Glycolic acid (79-14-1)	
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List	
RTK - U.S. - Pennsylvania - RTK (Right to Know) List	
Ethoxylated coconut oil alkyl amine (61791-14-8)	
U.S. - Texas - Effects Screening Levels - Long Term	
U.S. - Texas - Effects Screening Levels - Short Term	
Isopropyl alcohol (67-63-0)	
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute	
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic	
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)	
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances	
U.S. - New Jersey - Environmental Hazardous Substances List	
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - New Jersey - Special Health Hazards Substances List	
U.S. - New York - Occupational Exposure Limits - TWAs	
RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List	
RTK - U.S. - Pennsylvania - RTK (Right to Know) List	
U.S. - Texas - City of Austin - Aerosol Paint and Glue Restrictions	
U.S. - Texas - Effects Screening Levels - Long Term	

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U.S. - Texas - Effects Screening Levels - Short Term

Canadian Regulations

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Glycolic acid (79-14-1)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Alcohols, C10-16, ethoxylated propoxylated (69227-22-1)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Amines, N-tallow alkyltrimethylenedi-, tallates (61790-55-4)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Ethoxylated coconut oil alkyl amine (61791-14-8)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Isopropyl alcohol (67-63-0)

Listed on the Canadian DSL (Domestic Substances List).

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision date : 11/15/2024

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

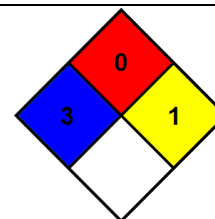
GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Corr. 1C	Skin corrosion/irritation Category 1C
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness
H411	Toxic to aquatic life with long lasting effects

NFPA Health Hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA Fire Hazard : 0 - Materials that will not burn.

NFPA Reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken, and medical treatment is given.

Flammability : 0 - Minimal Hazard.

Physical : 1 - Slight Hazard.

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Party Responsible for the Preparation of This Document

AFCO

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Chambersburg, PA 17201

T: 800-345-1329

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS SDS 2015 (U.S., Can., Mex.)