

Material Safety Data Sheet (MSDS)

ARG80211 TGF beta1 ELISA Kit

Version: 2015/07/07

1. Product and Company Identification

Product Catalog No: ARG80211

Product Name: TGF beta1 ELISA Kit

Supplier: Arigo Biolaboratories Corp.

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2. Composition / Information on Ingredients

Component number	Component name	Volume	Safety Information
ARG80211-001	Antibody-coated microplate	1 strip plate : (8*12 strips)	No hazards
ARG80211-002	Standard (Lyophilized)	Batch dependent (ng/vial)	No hazards
ARG80211-003	Standard diluent buffer	20 ml	Contains Proclin 300
ARG80211-004	Antibody conjugate concentrate	1 vial	Contains Proclin 300
ARG80211-005	Antibody diluent buffer	16 ml	Contains Proclin 300
ARG80211-006	HRP-Streptavidin concentrate	1 vial	Contains Proclin 300
ARG80211-007	HRP-Streptavidin diluent buffer	16 ml	Contains Proclin 300
ARG80211-008	20X Wash buffer	50 ml	Contains Proclin 300
ARG80211-009	TMB substrate	12 ml	See below
ARG80211-010	Stop Solution	12 ml	Contains 0.1N hydrochloric acid
ARG80211-011	1N HCl	5 ml	1N HCl
ARG80211-012	1N NaOH	5 ml	1N NaOH
ARG80211-013	Plate Sealers	6 strips	No hazards

3. Hazards Identification

Hydrochloric acid:

Skin Irrit: Class 1B

Pictogram:



Signal Word: WARNING

Hazard statements: Causes irritation and serious eye irritation.

Precautionary statements: Wash hands thoroughly after handling. Wear protective gloves, clothing and eye and face protection.

Tetramethylbenzidine:

Emergency Overview

OSHA Hazards: Target organ effect, Highly toxic by ingestion, Highly toxic by skin absorption

Target Organs: Heart, Central nervous system, Brain

GHS Classification: Acute toxicity, Oral (Category 2)

Acute toxicity, Dermal (Category 1)

Acute aquatic toxicity (Category 1)

Chronic aquatic toxicity (Category 1)

Pictogram:



Signal word: Danger

Proclin 300:

Emergency Overview

Skin Sens. 1; H317 – May cause an allergic skin reaction

Pictogram:



Signal Word: WARNING

Precautionary statements: P261: Avoid breathing mist.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves.

Classification according to Directive 67/548/EEC: The product is classified as a skin sensitizer according to Directive 1999/45/EC and its amendments.

Hazard Symbol / R-Phrase / S-Phrase: R43: May cause sensitization by skin contact.

Other hazards: none

Sodium hydroxide:

Skin Irrit: Class 1A

Skin Corrosion/irritation: Class Class 1 A

Serious Eye Damage/Eye Irritation: Class 1

Specific target organ toxicity (single exposure) : Class 3

Target Organs: Respiratory system.



Pictogram:

Signal Word: WARNING

Hazard statements: May be corrosive to metals, Causes severe skin burns and eye damage, May cause respiratory irritation

Precautionary statements: Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Keep only in original container

4. First Aid Measures

If in eyes: Rinse thoroughly with water for at least 15 minutes and immediately consult a physician.

If on skin (or hair): Immediately take off contaminated clothing or shoes. Wash with plenty of soap and water. Consult a physician.

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

If swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Immediately consult a physician.

Potential acute / delayed health effects:

Eye contact: Causes serious eye irritation / causes burns

Skin contact: Causes skin irritation / causes burns

Inhalation: Harmful if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion: Harmful if swallowed. Irritating to mouth, throat and stomach. / Causes burns

Notes to physician: Consult a physician. Show this safety data sheet to the doctor in attendance

5. Fire-Fighting Measures

Suitable extinguishing agents: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Hazards from the substance or mixture: In case of fire, toxic and corrosive gases may be formed.

Special precautions for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental Release Measures

Person-related safety precautions: Use appropriate personal protective equipment to prevent contamination of skin, eyes and personal clothing. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Measures for environmental protection: Keep away from drains.

Measures for containment and cleaning: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. Handling and Storage

Precautions for safe handling: Avoid inhalation of vapour or mist. Use normal measures for preventive fire protection.

Conditions for safe storage: Store in a cool, dry place. Keep container tightly closed in a dry and well-ventilated place.

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. Exposure Controls / Personal Protection

Control parameters: Contains no substances with occupational exposure limit values

Appropriate engineering controls: Use with adequate ventilation including local extraction. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures: Wash hands thoroughly after handling chemical products and before eating, smoking or using the toilet. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Eye/face protection: Wear approved safety goggles.

Skin/hand protection: Handle with protective gloves, plastic or rubber. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection: Wear suitable protective clothing as protection against splashing or contamination.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

Respiratory protection: In case of inadequate ventilation, use a suitable respirator. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

	Hydrochloric acid	Tetramethylbenzidine	Proclin 300	Sodium hydroxide
Appearance	Colorless Liquid	Solid	Colorless Liquid	Colorless Liquid
pH	~1	Not available	Not available	~11
Water Solubility	Completely soluble	Insoluble	Completely soluble	Completely soluble
Boiling Point (°C)	Not available	168-169°C (334-336°F)	-40°C	141.7 °C (287.1 °F)
Melting Point (°C)	Not available	168-171°C (334-340°F)	189°C	5-10.6 °C (41-51.1 °F)
Flash Point (°C)	Not available	Not available	118°C (Closed cup)	Not available
Ignition Temp. (°C)	Not available	Not available	Not available	Not available
Density	Not available	Not available	1.03 g/cm ³	Not available

10. Stability and Reactivity

	Hydrochloric acid	Tetramethylbenzidine	Proclin 300	Sodium hydroxide
Chemical Stability:	Stable under recommended storage conditions			
Conditions to avoid:	Bases, Halides, Metals, Alkalis, Acetonitrile	Exposure to moisture, light	Not available	Incompatible products. Excess heat.
Materials to Avoid:	Most metals, oxidizers, reducers, bases, metal carbonates, cyanides, sulphides, carbides, oxides, metal acetylides, hydrides, halogens, organic or combustible materials, perchlorates, acetonitrile, permanganates, alcohols, picrates.	Metals, strong acids, strong oxidizing agents	Strong oxidizing agents, reducing agents, Amines, Mercaptans	Acids, Metals
Hazardous decomposition products:	Oxides of Sulphur, Hydrogen gas.	Carbon oxides, nitrogen oxides	Carbon oxides, nitrogen oxides (NO _x), Sulphur oxides, Hydrogen chloride gas	Carbon monoxide (CO), Carbon dioxide (CO ₂), Sodium oxides

11. Toxicological Information

Hydrochloric acid:

Acute toxicity: Can cause severe burns upon contact while the vapours or mist are corrosive and can cause severe irritation or damage to the nose, throat and lungs. Ingestion of this product causes pain, nausea and vomiting and may be fatal if large doses are ingested.

Skin corrosion/irritation: Can cause severe burns

Serious eye damage/irritation: Can cause severe burns

Respiratory or skin sensitization: Not available

Germ cell mutagenicity: Not available

Carcinogenicity: Not available

Reproductive toxicity: Not available

Specific target organ toxicity (STOT) -single exposure: Not available

Specific target organ toxicity (STOT) -repeated exposure: Not available

Aspiration hazard: Can cause severe burns

Information on likely routes of exposure: Routes of entry anticipated; oral, dermal, inhalation.

Symptoms related to the physical, chemical and toxicological characteristics:

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed. Causes burns.

Skin contact: May be harmful if absorbed through skin. Causes burns.

Eye contact: Causes eye burns.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure: Potential immediate effects: Not available. Potential delayed effects: Not available.

Long term exposure: Potential immediate effects: Not available. Potential delayed effects: Not available.

Effects of chronic exposure: Repeated skin contact with this product may lead to dermatitis while repeated inhalation may cause bronchitis, conjunctivitis, respiratory infections, emphysema and digestive disturbances. May cause erosion and discoloration of the teeth.

Numerical measures of toxicity: Not available

Other Information: NA

Tetramethylbenzidine:

Acute toxicity: Not available

Skin corrosion/irritation: Not available

Serious eye damage/eye irritation: Not available

Respiratory or skin sensitization: Not available

Germ cell mutagenicity:

Genotoxicity in vitro – mouse – lymphocyte: mutation in mammalian somatic cells

Genotoxicity in vivo – mouse – intraperitoneal: micronucleus test

Carcinogenicity:

ARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Not available

Teratogenicity: Not available

Specific target organ toxicity – single exposure (GHS): Not available

Specific target organ toxicity – repeated exposure (GHS): Not available

Potential Health Effects

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Eyes: Causes eye irritation.

Ingestion: May be harmful if swallowed.

Signs and Symptoms of Exposure: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional information: RTECS: DV2300000

Proclin 300:

Acute toxicity: Not available

Skin corrosion/irritation: Can cause severe burns. Skin – rabbit – Corrosive

Serious eye damage/irritation: Rabbit – Corrosive to eyes

Respiratory or skin sensitization: May cause allergic skin reaction.

Germ cell mutagenicity: Not available

Carcinogenicity: Not available

Reproductive toxicity: Not available

Specific target organ toxicity (STOT) -single exposure: Not available

Specific target organ toxicity (STOT) -repeated exposure: Not available

Aspiration hazard: Can cause severe burns.

Information on likely routes of exposure: Routes of entry anticipated; oral, dermal, inhalation.

Symptoms related to the physical, chemical and toxicological characteristics:

Inhalation: Harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed. Causes burns.

Skin contact: Harmful if absorbed through skin. Causes burns.

Eye contact: Causes eye burns.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure: Potential immediate effects: Not available.

Potential delayed effects: Not available.

Long term exposure: Potential immediate effects: Not available. Potential delayed effects: Allergic contact dermatitis.

Effects of chronic exposure: Proclin 300 at levels greater than or equal to 0.1% is not identified as probable, possible or a confirmed human carcinogen by IARC.

Numerical measures of toxicity: Not available

Other Information: NA

Sodium hydroxide:

Acute toxicity: Not available

Irritation: Causes severe burns by all exposure routes

Sensitization: No information available

Reproductive Effects: No information available.

Developmental Effects: No information available.

Teratogenicity: No information available.

Specific target organ toxicity (STOT) -single exposure: Not available

Specific target organ toxicity (STOT) -repeated exposure: Not available

Aspiration hazard: No information available

Most important symptoms and effects, both acute and delayed:

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information: No information available

Other Adverse Effects: See actual entry in RTECS for complete information.

12. Ecological Information

Hydrochloric acid:

Ecotoxicity: This product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

Biodegradability: Not available.

Bioaccumulative potential: Not available.

Mobility in soil: Not available.

Other adverse effects: Not available.

Tetramethylbenzidine:

Ecotoxicity: Not available

Bioaccumulative potential: Not available

Mobility in soil: Not available

PBT and vPvB assessment: Not available

Other adverse effects: Not available

Proclin 300:

Ecotoxicity: Not available

Biodegradability: Not available.

Bioaccumulative potential: Not available.

Mobility in soil: Not available.

Other adverse effects: Toxic to aquatic organisms.

Sodium hydroxide:

Ecotoxicity: Do not empty into drains.

Biodegradability: Not available.

Bioaccumulative potential: Not available.

Mobility in soil: Not available.

13. Disposal Considerations

Disposal methods: Dispose of waste in accordance to applicable national, regional, or local regulations.

Contaminated packaging: Dispose in the same manner as unused product.

Special precautions: Large spills must be dealt with separately by qualified disposal personnel. Avoid dispersal of spilt material to soil, waterways, drains and sewers.

14. Transport Information

Land transport ADR/RID (cross-border)

Remarks: No dangerous good in sense of this transport regulation.

Inland shipping ADN:

Remarks: No dangerous good in sense of this transport regulation.

Maritime transport IMDG:

Marine pollutant: No

Remarks: No dangerous good in sense of this transport regulation.

Air transport ICAO-TI and IATA-DGR:

Remarks: No dangerous good in sense of this transport regulation.

Transport/Additional information:

Not dangerous according to the above specifications.

This product is part of a kit. Information in this section refers to the kit as a whole.

15. Regulatory Information

No data available.

16. Other Information

Risk Phrases: Irritating to eyes and skin.

Safety Phrases: In case of contact with eyes, rinse immediately with plenty of water and see medical advice.

Notice to reader: To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Data compared to the previous version altered.
