



Material Safety Data Sheet

Product Name: Human TNF-alpha QuantiGlo ELISA Kit

Reviewed on: 9 August 2011

1. Identification of Substance:

- Other means of identification: **Catalog Number: QTA00B**
Components: Microplate, Conjugate (contains Proclin 300), Standard (contains Proclin 300), Assay Diluent (contains Proclin 300), Calibrator Diluent (contains Proclin 300), Wash Buffer and Glo Reagents A and B (contain Proprietary ingredients).
- GHS product identifier:** NA
- Application of the substance / the preparation:** For Research Use Only
- Manufacturer/Supplier:**
R&D Systems Inc.
614 McKinley Place N.E.
Minneapolis, MN 55413
USA
1-800-328-2400
- Emergency information:** In case of a chemical emergency, spill, fire, or exposure, call R&D Systems at (612) 379-2956 or (800)-343-7475. In Europe call +44(0)1235-529449.

2. Hazard Identification:

- Classification: Regulation (EC) No. 1272/2008 [CLP/GHS]**
Some components indicated above contain **Proclin 300**: Skin Sens. 1; H317 – May cause an allergic skin reaction.
- 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.
Response:
IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: get medical attention. Wash contaminated clothing before reuse.
- 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



3. Information on Ingredients:

Description: Proclin 300

Contains	CAS No.	EC-No.	Index-No.	Content
Modified Alkyl Carboxylate	-	-	-	<0.01%
Mixture of 5-Chloro-2-Methyl-4-Isothiazolin-3-One (26172-55-4) and -Methyl-4-Isothiazolin-3-One (2682-20-4)	55965-84-9	-	613-167-00-5	<0.01%
Modified Glycol	-	-	-	≤1.6%

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.



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5. Fire Fighting Measures:

- **Suitable extinguishing agents:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- **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. Evacuate personnel to safe areas.
- **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 contact with skin and eyes. Avoid inhalation of vapour or mist. Use normal measures for preventive fire protection.
- **Conditions for safe storage:** Store in a cool, dry place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. Exposure Controls and Personal Protection:

- **Control parameters:** Contains no substances with occupational exposure limit values.
- **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 such as NIOSH (US) or CEN (EU).

9. Physical and Chemical Properties:

- | | |
|---|--|
| ▪ Appearance: Clear Liquid | Upper/lower flammability or explosive limits: Not available |
| ▪ Odor: Not available | Vapor density : Not available |
| ▪ Odor threshold: Not available | Vapor pressure: Not available |
| ▪ pH: Not available | Relative density: 1.03 g/cm ³ |
| ▪ Melting point/freezing point: -40° C | Solubility in/Miscibility with Water: Soluble |
| ▪ Boiling point/Boiling range: 189° C | Partition coefficient: octanol/water: Not available |
| ▪ Flash point: 118° C – closed cup | Auto igniting: Not available |
| ▪ Evaporation rate: Not available | Decomposition temperature: Not available |
| ▪ Flammability (solid, gas): Not available | Viscosity: Not available |

10. Stability and Reactivity:

- **Chemical Stability:** Stable under recommended storage conditions.
- **Conditions to avoid:** Strong oxidizing agents, reducing agents, Amines, Mercaptans
- **Hazardous decomposition products:** Hazardous decomposition products formed under fire conditions – Carbon oxides, nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.



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11. Toxicological Information:

- **Acute toxicity:** LD50 Oral – rat – 862 mg/kg
LD50 Dermal – rabbit- 2800 mg/kg
- **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:** No data available
- **Carcinogenicity:** No data available
- **Reproductive toxicity:** No data available
- **Specific target organ toxicity (STOT) -single exposure:** No data available
- **Specific target organ toxicity (STOT) -repeated exposure:** No data 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

12. Ecological Information:

- **Ecotoxicity:** No data available
- **Biodegradability:** No data available.
- **Bioaccumulative potential:** No data available.
- **Mobility in soil:** No data available.
- **Other adverse effects:** Toxic to aquatic organisms.

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:** Dispose of small amounts of spilled material as described in section 6. Large spills must be dealt with separately by qualified disposal personnel. Avoid dispersal of spilled material to soil, waterways, drains and sewers.

14. Transport Information:

- **UN Number:** None
 - **DOT regulations:** · **Hazard class:** None
 - **Land transport ADR/RID (cross-border):** Not regulated.
 - **Maritime transport IMDG:** Not regulated.
 - **Marine pollutant:** No
 - **Air transport ICAO-TI and IATA-DGR:** Not regulated.
- Transport/Additional information:** Not dangerous according to the above specifications.



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15. Regulations:

- **EU Regulation (EC) No. 1907/2006 (REACH) Annex XIV:**
List of substances subject to authorization **Substances of very high concern:** None of the components are listed.
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: Not applicable.
- **Hazard Symbol / R-Phrase / S-Phrase:** R43 May cause sensitization by skin contact.

16. Other Information:

- **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.

2. Hazard Identification:

- **Classification: Regulation (EC) No. 1272/2008 [CLP/GHS]**
Glow Reagent A: Causes respiratory tract, eye and skin irritation. May be harmful if swallowed. Contains material that can cause target organ damage.
- **Signal Word:** WARNING
- **Precautionary statements:**
Skin: Irritating to the skin.
Eyes: Irritating to the eyes.
Ingestion: Harmful if swallowed.
Inhalation: Irritating to respiratory system. Serious effect may be delayed following exposure.
Target Organs: Contains material which causes damage to the kidneys, liver, upper respiratory tract, skin, central nervous system (CNS) and eyes.
- **Classification according to Directive 67/548/EEC:** The product is not classified as dangerous based on percentages 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



3. Information on Ingredients:

Description: Glo Reagent A

Contains	CAS No.	EC-No.	Content
Proprietary Ingredient 1	Proprietary	Proprietary	<3%
Proprietary Ingredient 2	Proprietary	Proprietary	<3%

4. First Aid Measures:

- **IF IN EYES:** Wash eyes immediately with large amounts of water or normal saline for at least 15 minutes, lifting the upper and lower lids to assure adequate flushing. Seek medical attention if irritation develops.
- **IF ON SKIN:** 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. Consult a physician.
- **IF SWALLOWED:** Consult with medical staff or poison control center to determine if any immediate response or follow-up actions are recommended. Never give anything by mouth to an unconscious person.



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5. Fire Fighting Measures:

- **Flammability 2, Reactivity 0, Other 0.**
- **Suitable extinguishing agents:** No restriction; use any means suitable for extinguishing surrounding fire.
- **Special precautions for fire-fighters:** Self contained breathing apparatus and full protective clothing must be worn in case of fire. The product presents no special fire hazards in normal use.

6. Accidental Release Measures:

- **Person-related safety precautions:** Use appropriate personal protective equipment to prevent contamination of skin, eyes and personal clothing. Evacuate personnel to safe areas.
- **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 contact with skin and eyes. Avoid inhalation of vapour or mist. Use normal measures for preventive fire protection.
- **Conditions for safe storage:** Store in a cool, dry place. Keep lid tightly closed and avoid light and elevated temperatures.

8. Exposure Controls and Personal Protection:

- **Hazardous Components:** Proprietary Ingredient 2, TWA (OSHA PEL – none, ACFIH TLV – none) Ceiling (OSHA PEL – none, ACGIH TLV – 100 mg/m³ (aerosol only).
- **Control parameters:** Local exhaust ventilation is recommended. Ensure that eyewash station and safety showers are proximal to the working station.
- **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 rubber or vinyl gloves. 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 such as NIOSH (US) or CEN (EU).

9. Physical and Chemical Properties:

- | | |
|--|---|
| ▪ Appearance: Clear to light pink liquid solution | Viscosity: Not available |
| ▪ Odor: None | Vapor density : Not available |
| ▪ Odor threshold: Not available | Vapor pressure: Not available |
| ▪ pH: 9.4 – 9.8 | Relative density: Not available |
| ▪ Melting point/freezing point: Not available | Solubility in/Miscibility with Water: Soluble |
| ▪ Boiling point/Boiling range: Not available | Partition coefficient: octanol/water: Not available |
| ▪ Flash point: Not available | Auto igniting: Not available |
| ▪ Evaporation rate: Not available | Decomposition temperature: Not available |
| ▪ Flammability (solid, gas): Not available | Upper/lower flammability or explosive limits: Not explosive or flammable |



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10. Stability and Reactivity:

- **Chemical Stability:** Stable under recommended use and storage conditions.
- **Conditions to avoid:** Light, elevated temperatures and moisture.
- **Hazardous decomposition products:** Under recommended use and storage conditions hazardous byproducts should not be produced.

11. Toxicological Information:

- **Acute toxicity:** No data available
- **Skin corrosion/irritation:** No data available
- **Serious eye damage/irritation:** No data available
- **Respiratory or skin sensitization:** No data available
- **Germ cell mutagenicity:** No data available
- **Carcinogenicity:** No data available
- **Reproductive toxicity:** No data available
- **Specific target organ toxicity (STOT) -single exposure:** No data available
- **Specific target organ toxicity (STOT) -repeated exposure:** No data available
- **Aspiration hazard:** No data available
- **Information on likely routes of exposure:** Routes of entry anticipated; oral, dermal, inhalation.
- **Symptoms related to the physical, chemical and toxicological characteristics:** No data available
- **Delayed and immediate effects and also chronic effects from short and long term exposure:** No data available
- **Short term Effects of chronic exposure:** No data available
- **Numerical measures of toxicity:** Not available
- **Other Information:** NA

12. Ecological Information:

- **Ecotoxicity:** No data available.
- **Biodegradability:** No data available.
- **Bioaccumulative potential:** No data available.
- **Mobility in soil:** No data available.
- **Other adverse effects:** No data 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:** Dispose of small amounts of spilled material as described in section 6. Large spills must be dealt with separately by qualified disposal personnel. Avoid dispersal of spilled material to soil, waterways, drains and sewers.

14. Transport Information:

- **UN Number:** NA
 - **DOT regulations:** Not regulated.
 - **Hazard class:** None
 - **Land transport ADR/RID (cross-border):** Not regulated.
 - **Maritime transport IMDG:** Not regulated.
 - **Marine pollutant:** No data available.
 - **Air transport ICAO-TI and IATA-DGR:** Not regulated.
- Transport/Additional information: Not dangerous according to the above specifications.



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15. Regulations:

- **CERLA:** – Proprietary Ingredient 2 is listed as a hazardous substance.
- **SARA 313:** – Proprietary Ingredient 2 is listed.
- **International Regulation:** There are no hazardous ingredients in an amount that requires identification and labeling according to EU Directives.

16. Other Information:

- **Hazard Symbol / R-Phrase / S-Phrase:** Xn – Harmful. R22 – Harmful if swallowed.
- **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.