

## Safety Data Sheet


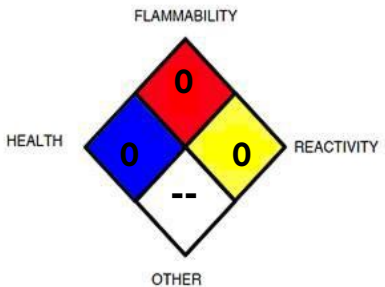
### Section 1: Product & Company Identification

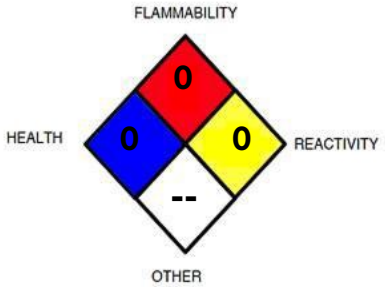
<b>Product Name:</b>	ROS Detection Assay Kit (DCFDA / H2DCFDA)
<b>Product #:</b>	R-2661
<b>Synonyms:</b>	-
<b>Supplier:</b>	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego CA 92131 Tele# + 858-452-9925 Fax# + 858-452-9926
<b>Emergency Tele#:</b>	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

### Section 2: Composition / Information on Ingredients

Component	CAS#	EC #	% Composition
Dimethyl sulfoxide (DMSO)	67-68-5	200-664-3	
2',7'-Dichlorofluorescein diacetate	4091-99-0	-	
Hydrogen peroxide solution	7722-84-1	231-765-0	30 - 35

### Section 3: Hazards Identification

<b>Symbols</b>	
<b>HMIS Classification</b>	<p style="text-align: center;">FLAMMABILITY</p>  <p style="text-align: center;">OTHER</p>

<b>NFPA Classification</b>	 <p style="text-align: center;">FLAMMABILITY HEALTH      REACTIVITY OTHER</p>
----------------------------	--

## Section 4: First Aid Measures

<b>General Overview:</b>	Consult a physician. Show this safety data sheet to the doctor in attendance.
<b>Inhalation:</b>	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>Skin:</b>	Wash off with soap and plenty of water. Consult a physician.
<b>Eyes:</b>	Flush eyes with water as a precaution.
<b>Ingestion:</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
	See section 11 for more detailed information on health effects & symptoms.

## SECTION 5: Fire Fighting Measures

<b>Flammability of the product:</b>	Combustible liquid.
<b>Extinguishing Media:</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Do NOT use water jet.
<b>Hazardous thermal (de)composition products:</b>	Carbon oxides, Sulfur oxides
<b>Special Fire Fighting Procedures:</b>	Wear self-contained breathing apparatus for firefighting if necessary.
<b>Flash Point:</b>	No data available

## Section 6: Accidental Release Measures


<b>Personal Precautions:</b>	Avoid breathing vapors, mist or gas. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
<b>Environmental Precautions:</b>	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
<b>Methods for Clean-up:</b>	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for



	disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.
--	--


## SECTION 7: Handling & Storage

<b>Storage:</b>	Keep container tightly closed in a dry and well-ventilated place. Store in cool place. Store under inert gas. Hygroscopic. Recommended storage temperature: 2 - 8°C.
<b>Handling:</b>	Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

## SECTION 8: Exposure controls / Personal Protection

<b>Respiratory Protection:</b>	 <p>Where risk assessment shows air-purifying respirators are appropriate use a full- face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. 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).</p>
--------------------------------	--

<b>Skin and Body:</b>	  <p>Handle with gloves. Gloves must be inspected prior to use. 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.</p> <p>Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.</p>
-----------------------	--

<b>Eyes:</b>	 <p>Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).</p>
<b>Ventilation/Engineering Measures:</b>	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
<b>Hygiene:</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Other:</b>	Components with workplace control parameters: Hydrogen peroxide (CAS 7722-84-1) Control parameters: 1 ppm, 1.4 mg/m <sup>3</sup> Basis: UK. EH40 WEL - Workplace Exposure Limits

## SECTION 9: Physical and Chemical Properties

<b>Appearance &amp; Odor:</b>	Clear liquid
<b>Formula</b>	N/A
<b>Molecular Wt.</b>	N/A
<b>Melting Pt.</b>	N/A
<b>Boiling Pt.</b>	N/A
<b>Density:</b>	N/A
<b>Vapor Pressure:</b>	N/A
<b>Evaporation Rate:</b>	N/A
<b>Vapor Density:</b>	N/A
<b>Solubility:</b>	N/A
<b>Flash Point:</b>	N/A
<b>Autoignition Temp:</b>	N/A

## SECTION 10: Stability and Reactivity

<b>Stability:</b>	Stable under recommended storage conditions.
<b>Hazardous decomposition products:</b>	Carbon oxides, Sulfur oxides, Hydrogen chloride gas
<b>Materials to Avoid:</b>	Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents, Strong reducing agents
<b>Conditions to avoid:</b>	Heat, flames, and sparks.

## SECTION 11: Toxicological Information

<b>RTECS#:</b>	<b>Dimethyl sulfoxide (CAS 67-68-5):</b> PV6210000
<b>ACUTE Toxicity:</b>	<p><b>Dimethyl sulfoxide (CAS 67-68-5):</b>            LD50 Oral - Rat - male and female - 28,300 mg/kg (OECD Test Guideline 401)            LC0 Inhalation - Rat - male and female - 4 h - &gt; 5.33 mg/l (OECD Test Guideline 403)            LD50 Dermal - Rat - male and female - 40,000 mg/kg Remarks: (ECHA)</p> <p><b>Hydrogen peroxide (CAS 7722-84-1):</b>            LD50 Oral - Acute toxicity estimate - 1,253 mg/kg (Calculation method)</p>
<b>CHRONIC Toxicity:</b>	<p><b>Dimethyl sulfoxide (CAS 67-68-5):</b>            Skin corrosion/irritation            Skin - Rabbit Result: slight irritation - 4 h (OECD Test Guideline 404)</p> <p>Serious eye damage/eye irritation            Eyes - Rabbit Result: slight irritation - 24 h (OECD Test Guideline 405)</p> <p>Respiratory or skin sensitization            Maximization Test - Guinea pig Result: negative (OECD Test Guideline 406) Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 429)</p> <p>Germ cell mutagenicity            Ames test Salmonella typhimurium            Result: negative            Sister chromatid exchange assay            Chinese hamster ovary cells            Result: negative            Mutagenicity (mammal cell test): chromosome aberration.            Chinese hamster ovary cells            Result: negative            OECD Test Guideline 474            Rat - male and female            Result: negative</p> <p>Repeated dose toxicity - Rat - male and female - Oral - 18 Months - No observed adverse effect level - 3,300 mg/kg - Lowest observed adverse effect level - 9,900 mg/kg</p> <p>Repeated dose toxicity - Monkey - male and female - Dermal - 18 Months - No observed adverse effect level - &gt;= 8,910 mg/kg - Lowest observed adverse effect level - 990 mg/kg</p>

	<p>Exposure to large amounts can cause: redness of skin, Itching, burning, sedation, Headache, Nausea, Dizziness</p> <p>To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.</p> <p><b>Hydrogen peroxide (CAS 7722-84-1):</b> Risk of serious damage to eyes. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)</p>
<p><b>Chronic Exposure:</b> <b>Carcinogen:</b> <b>Mutagen:</b> <b>Teratogen:</b> <b>Reproductive:</b></p>	<p>IARC: 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.</p> <p>AGGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, potential human carcinogen by ACGIH.</p> <p>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated human carcinogen by NTP.</p> <p>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as known or potential human carcinogen by OSHA.</p> <p>EPA: No classification on carcinogenic data is available from EPA</p>

## SECTION 12: Ecological Information

<p><b>Ecotoxicity:</b></p>	<p><b>Dimethyl sulfoxide (CAS 67-68-5):</b> Toxicity to fish Static test LC50 - Danio rerio (zebra fish) - &gt; 25,000 mg/l - 96 h (OECD Test Guideline 203)</p> <p>Toxicity to daphnia and other aquatic invertebrates Static test EC50 - Daphnia magna (Water flea) - 24,600 mg/l - 48 h (OECD Test Guideline 202)</p> <p>Toxicity to algae Static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 17,000 mg/l - 72 h (OECD Test Guideline 201)</p> <p>Toxicity to bacteria EC50 - activated sludge - 10 - 100 mg/l - 30 min (ISO 8192)</p>
<p><b>Mobility:</b></p>	<p>No data available</p>
<p><b>Persistence and degradability:</b></p>	<p><b>Dimethyl sulfoxide (CAS 67-68-5):</b> Aerobic - Exposure time 28 d Result: 31 % - Not readily biodegradable. (OECD Test Guideline 301D)</p>
<p><b>Bioaccumulative potential:</b></p>	<p>No data available</p>

<b>Other adverse effects:</b>	No data available
<b>Corrosivity Characteristic:</b>	No data available
<b>General Notes:</b>	To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

## SECTION 13: Disposal Considerations

<b>Residue Waste or Unused product:</b>	Offer surplus and non-recyclable solutions to a licensed disposal company.
<b>Contaminated Packaging:</b>	Dispose of as unused product.

## SECTION 14: Transportation Information

<b>UN ID#:</b>	Hydrogen peroxide (CAS 7722-84-1): ADR/RID: 2014 IMDG: 2014 IATA: 2014
<b>ADR / RID (LAND):</b>	Hydrogen peroxide (CAS 7722-84-1) Proper shipping name: Hydrogen peroxide, aqueous solution Transport hazard classes: ADR/RID: 5.1 (8)
<b>DOT regulations:</b>	Hydrogen peroxide (CAS 7722-84-1) Proper shipping name: Hydrogen peroxide, aqueous solution
<b>IMDG/IMO (SEA):</b>	Hydrogen peroxide (CAS 7722-84-1) Proper shipping name: Hydrogen peroxide, aqueous solution Transport hazard class: 5.1 (8) Packaging group: II Marine pollutant: No
<b>IATA/DGR (AIR):</b>	Hydrogen peroxide (CAS 7722-84-1) Proper shipping name: Hydrogen peroxide, aqueous solution Transport hazard class: 5.1 (8) Packaging group: II
<b>Special Provisions:</b>	N/A

## SECTION 15: Regulatory Information

<b>Health Phrases:</b>	Danger H271 May cause fire or explosion; strong oxidizer. H272 May intensify fire; oxidizer. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H332 Harmful if inhaled.
------------------------	---

	H335 May cause respiratory irritation. H412 Harmful to aquatic life with long lasting effects.
<b>Risk Phrases:</b>	P273 Avoid release to the environment. P280 Wear eye protection/ face protection. P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor
<b>Safety Phrases:</b>	N/A
<b>EU Regulations:</b>	N/A
<b>US Regulations:</b>	TSCA: Not listed California Proposition 65: No products were found
<b>U.S. Federal Regulations:</b>	SARA 302/304 emergency planning and notification: No products were found. SARA 311/312 MSDS distribution-chemical inventory-hazard identification: No products were found. SARA 313 toxic chemicals notification and release reporting: No products were found.  Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: No products were found. Clean Air Act (CAA) 112 accidental release prevention: No products were found. Clean Air Act (CAA) 112 regulated flammable substances: No products were found. Clean Air Act (CAA) 112 regulated toxic substances: No products were found. OSHA: Acute Toxicity (Cat. 4); Skin Corrosion (Cat. 1A)
<b>WHMIS (Canada):</b>	N/A

## SECTION 16: Other Information

**LIABILITY STATEMENT:** *The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. AG Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. AG Scientific products are for research purposes only. Not for human use or consumption.*