

# SAFETY DATA SHEET

Didymium Standard for UV Cert. to USP857, Part Number G6860-80001

## Section 1. Identification

**Product identifier** : Didymium Standard for UV Cert. to USP857, Part Number G6860-80001  
**Part no.** : G6860-80001

### Relevant identified uses of the substance or mixture and uses advised against

**Material uses** : Reagents and Standards for Analytical Chemistry Laboratory Use  
 sealed quartz cuvettes  
 < 3 ml

**Supplier/Manufacturer** : Agilent Technologies Australia Pty Ltd  
 679 Springvale Road  
 Mulgrave  
 Victoria 3170, Australia  
 1800 802 402

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +(61)-290372994

## Section 2. Hazard(s) identification

### Classification of the substance or mixture

H272 OXIDISING LIQUIDS - Category 2  
 H314 SKIN CORROSION/IRRITATION - Category 1A  
 H318 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1

### GHS label elements

**Hazard pictograms** :



**Signal word** : DANGER

**Hazard statements** : H272 - May intensify fire; oxidiser.  
 H314 - Causes severe skin burns and eye damage.

### Precautionary statements

**Prevention** : P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection.  
 P210 - Keep away from heat. No smoking.  
 P220 - Keep away from clothing and other combustible materials.  
 P221 - Take any precaution to avoid mixing with combustibles.

**Response** : P310 - Immediately call a POISON CENTER or doctor.

**Storage** : Not applicable.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

### Supplemental label elements

**Additional warning phrases** : Not applicable.

**Other hazards which do not result in classification** : Causes digestive tract burns.

## Section 3. Composition and ingredient information

**Substance/mixture** : Mixture

### CAS number/other identifiers

| Ingredient name | % (w/w)   | CAS number |
|-----------------|-----------|------------|
| Perchloric acid | ≥10 - ≤30 | 7601-90-3  |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Rinse immediately contaminated clothing and skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns.
- Ingestion** : Corrosive to the digestive tract. Causes burns.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.

## Section 4. First aid measures

- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : Oxidising material. May intensify fire. In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
halogenated compounds  
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Hazchem code** : 

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

## Section 6. Accidental release measures

### Methods and material for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Do not absorb in sawdust or other combustible material. It may lead to a fire risk when it dries out. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from clothing, incompatible materials and combustible materials. Keep away from heat. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 4 to 40°C (39.2 to 104°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from reducing agents and combustible materials. Store away from grease and oil. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls and personal protection

### Control parameters

### Occupational exposure limits

None.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls and personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid. [Clear.]
- Colour** : Green.
- Odour** : Not available.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : 100°C (212°F)
- Flash point** : Not available.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not applicable.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapour pressure** : Not available.
- Vapour density** : Not available.
- Relative density** : Not available.
- Density** : 1 g/cm<sup>3</sup>
- Solubility** : Soluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Hazardous reactions or instability may occur under certain conditions of storage or use.  
Conditions may include the following:  
contact with combustible materials  
Reactions may include the following:  
risk of causing or intensifying fire
- Conditions to avoid** : Light. Drying on clothing or other combustible materials may cause fire.
- Incompatible materials** : Reactive or incompatible with the following materials:  
combustible materials  
reducing materials
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name | Result    | Species | Dose       | Exposure |
|-------------------------|-----------|---------|------------|----------|
| Perchloric acid         | LD50 Oral | Rat     | 1100 mg/kg | -        |

#### Irritation/Corrosion

Not available.

#### Sensitisation

Not available.

#### Mutagenicity

**Conclusion/Summary** : Not available.

#### Carcinogenicity

**Conclusion/Summary** : Not available.

#### Reproductive toxicity

**Conclusion/Summary** : Not available.

#### Teratogenicity

**Conclusion/Summary** : Not available.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation.

#### Potential acute health effects

**Eye contact** : Causes serious eye damage.

**Inhalation** : No known significant effects or critical hazards.

## Section 11. Toxicological information

- Skin contact** : Causes severe burns.  
**Ingestion** : Corrosive to the digestive tract. Causes burns.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
 pain  
 watering  
 redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
 pain or irritation  
 redness  
 blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
 stomach pains

### Delayed and immediate effects as well as 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.

#### Potential chronic health effects

- General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

| Product/ingredient name   | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapours) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|--------------|----------------|--------------------------|-----------------------------|-------------------------------------|
| Didymium Standard for UV Cert. to USP857, Part Number G6860-80001 | 11000        | N/A            | N/A                      | N/A                         | N/A                                 |
| Perchloric acid   | 1100         | N/A            | N/A                      | N/A                         | N/A                                 |

## Section 12. Ecological information

### Toxicity

| Product/ingredient name | Result                           | Species                 | Exposure |
|-------------------------|----------------------------------|-------------------------|----------|
| Perchloric acid         | Acute EC50 >100 mg/l Fresh water | Daphnia - Daphnia magna | 48 hours |

### Persistence and degradability

## Section 12. Ecological information

Not available.

### Bioaccumulative potential

| Product/ingredient name | LogP <sub>ow</sub> | BCF   | Potential |
|-------------------------|--------------------|-------|-----------|
| Perchloric acid         | -                  | 0.039 | low       |

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

**ADG / IMDG / IATA** : Not regulated as Dangerous Goods according to the ADG Code .

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### Standard for the Uniform Scheduling of Medicines and Poisons

Not regulated.

### Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.



## Section 15. Regulatory information

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

|                          |  |
|--------------------------|--|
| <b>Australia</b>         | : All components are listed or exempted.   |
| <b>Canada</b>            | : All components are listed or exempted.   |
| <b>China</b>             | : All components are listed or exempted.   |
| <b>Europe</b>            | : All components are listed or exempted.   |
| <b>Japan</b>             | : <b>Japan inventory (ENCS)</b> : All components are listed or exempted.<br><b>Japan inventory (ISHL)</b> : All components are listed or exempted. |
| <b>New Zealand</b>       | : All components are listed or exempted.   |
| <b>Philippines</b>       | : All components are listed or exempted.   |
| <b>Republic of Korea</b> | : All components are listed or exempted.   |
| <b>Taiwan</b>            | : All components are listed or exempted.   |
| <b>Thailand</b>          | : Not determined.  |
| <b>Turkey</b>            | : Not determined.  |
| <b>United States</b>     | : <input checked="" type="checkbox"/> All components are active or exempted.   |
| <b>Viet Nam</b>          | : <input checked="" type="checkbox"/> All components are listed or exempted.   |

## Section 16. Any other relevant information

### History

**Date of issue/Date of revision** : 01/06/2020

**Date of previous issue** : 07/05/2018

**Version** : 4

### Key to abbreviations

: ADG = Australian Dangerous Goods  
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
 ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 SUSMP = Standard Uniform Schedule of Medicine and Poisons  
 UN = United Nations

### Procedure used to derive the classification

| Classification  | Justification   |
|---|---|
| <input checked="" type="checkbox"/> OXIDISING LIQUIDS - Category 2<br>SKIN CORROSION/IRRITATION - Category 1A<br>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 | Expert judgment<br>Calculation method<br>Calculation method |

**References** : Not available.

Indicates information that has changed from previously issued version.

### Notice to reader

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