

## SECTION 1: Identification of the substance or mixture and of the supplier

<b>GHS Product Identifier</b>	TMB Stop Solution (450 nm)
<b>Other means of identification</b>	N/A
<b>Product type</b>	Liquid
<b>Product code</b>	OOSB00025
<b>Chemical formula</b>	Not applicable
<b>CAS No</b>	Not applicable
<b>Relevant Identified uses of the substance or mixture and uses advised against</b>	For laboratory use
<b>Supplier's details</b>	Aviva Systems 5754 Pacific Center Blvd., Suite 201 San Diego, CA 92121 Tel: (858) 552-6979 Fax: (858) 552-6975 Website: <a href="http://www.avivasysbio.com">www.avivasysbio.com</a>
<b>Distributor and Emergency Phone No.</b>	Refer to website for distributor and emergency phone numbers. Tel: (858) 552-6979

## SECTION 2: Hazards identification

### Classification of the substance or mixture

#### GHS-US classification

Skin irritation (Cat. 1C)	H314
Serious eye damage (Cat. 1)	H317

#### Label elements

#### GHS-US labeling

##### Hazard pictograms (GHS-US)

Not a hazardous substance or mixture



##### Signal word (GHS-US)

Danger

##### Hazard statements (GHS-US)

H314 – Causes severe skin burns and eye damage  
H317 – May cause an allergic skin reaction.

##### Precautionary statements (GHS-US)

P264 – Wash hands, forearms, and exposed areas thoroughly after handling. P261 – Avoid breathing fume, mist, vapors, spray  
P260 – Do not breathe dust/fume/gas/mist/vapors/spray  
P272 – Contaminated work clothing must not be allowed of the workplace  
P280 – Wear protective gloves/ protective clothing/ eye protection/ face protection  
P301+P330+P331 – IF SWALLOWED: rinse mouth. Don NOT induce vomiting  
P302 + P352 – IF ON SKIN: Wash with plenty of soap and water.  
P303+P361+P353 – IF ON SKIN (OR HAIR): take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 – IF INHALED: Remove person to fresh air and keep 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 Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work on this

##### Prevention

##### Response

Rev. 30-Apr-15

**Storage  
Disposal**

label)  
 P333+P313 – If skin irritation or rash occurs: Get medical advice/attention  
 P362+P364 – Take off contaminated clothing and wash it before reuse  
 P363 – Wash contaminated clothing before reuse.  
 P405 – Store locked up  
 P501 – Dispose of contents and container in accordance with all local, regional, national, and international regulations.

**Other hazards****Unknown acute toxicity (GHS US)**

No data available

Full text of H-phrases: see section 16

**SECTION 3: Composition/information on ingredients****Substance/Mixture**

Mixture

**Other Means of Identification**

Not available

**CAS Number/other identifiers****CAS Number**

Not applicable

Ingredient Name	Product Identifier	Percentage
Maleic acid	(CAS No.) 110-16-7 / [EINECS(EC#)] 203-742-5	3-7%

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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 first aid measures****First-aid measures general**

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. 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.

**First-aid measures after eye contact**

Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Get medical attention immediately. Continue rinsing. Consult a physician.

**First-aid measures after inhalation**

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If breathing is difficult, supply oxygen. Consult a physician.

**First-aid measures after skin contact**

Remove affected clothing and wash all exposed skin with water for at least 15 minutes. Get medical attention immediately.

**First-aid measures after ingestion**

Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention immediately.

**Most important symptoms and effects, acute and delayed****Potential acute health effects****Eye contact**

Causes serious eye damage.

**Inhalation**

May cause respiratory irritation.

**Skin contact**

May cause an allergic skin reaction. Causes serious eye damage. Harmful in contact with skin.

**Ingestion**

May cause a light irritation of the linings of the mouth, throat, and gastrointestinal tract.

**Over-exposure signs/symptoms****Eye contact**

No specific data

Inhalation	No specific data
Skin contact	No specific data
Ingestion	No specific data

**Indication of any 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**SECTION 5: Firefighting measures****Extinguishing media**

<b>Suitable extinguishing media</b>	Foam. Carbon dioxide. Dry powder. Water spray.
<b>Unsuitable extinguishing media</b>	Sand. None known
<b>Special hazards arising from the substance or mixture</b>	No special hazards determined
Hazardous thermal decomposition products	No specific data
<b>Special protective actions for fire-fighters</b>	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures**

**General measures:** Evacuate area. Ventilate area. Keep upwind. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

**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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders**

Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

**Environmental precautions**

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

**Methods and material for containment and cleaning up**

**Small spill:** Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

**Large spill:** Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Sweep or shovel spills into appropriate container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.

**Reference to other sections**

See Section 1 for emergency contact information, Section 13 for waste disposal, and Section 8 for exposure controls and personal protection.

**SECTION 7: Handling and storage**

**Precautions for safe handling**

**Precautions for safe handling:** Do not handle until all safety precautions have been read and understood. Use appropriate personal protection equipment (PPE). Keep away from sources of ignition - No smoking.

**Hygiene measures:** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. 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**

**Technical measures:** Keep the container tightly closed. Store in a dry, cool and well-ventilated place. Avoid elevated temperatures.

Recommended storage temperature: 22-28 C

## SECTION 8: Exposure controls/personal protection

### Control parameters

No data available

### Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. . Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Environmental exposure controls

Do not let product enter drains.

Personal protective equipment

Protective goggles, gloves



Hand protection

Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl.

Body protection

Impervious clothing. Lab coat. Wear suitable protective clothing. Wear long sleeves.

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.

Eye protection

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles.

Respiratory protection

Where excessive vapour, mist, or dust may result, use NIOSH approved respiratory protection equipment.

Conditions to avoid

No specific data

Incompatible materials

No specific data

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Other information

When using, do not eat, drink, or smoke. Contains material of human origin.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

#### Appearance

#### Physical state

: Liquid

#### Color

: Clear, colorless

#### Odor

: Not available

#### Odor threshold

: Not available

#### pH

: ≤ 2

#### Melting point

: Not available

#### Boiling point

: Not available

#### Flash Point

: Not available

#### Burning time

: Not applicable

#### Burning rate

: Not applicable

#### Evaporation rate

: Not available

#### Flammability (solid, gas)

: Not available

#### Lower and upper explosive (flammable) limits

: Not available

#### Vapor pressure

: Not available

#### Vapor density

: Not available

<b>Relative density</b>	: Not available
<b>Solubility</b>	: Soluble in the following materials: cold water and hot water.
<b>Partition coefficient n-octanol/water</b>	: Not available
<b>Auto-ignition temperature</b>	: Not available
<b>Decomposition temperature</b>	: Not available
<b>SADT</b>	: Not available
<b>Viscosity</b>	: Not available

**Other information**

No additional information available

**SECTION 10: Stability and reactivity**

<b>Reactivity</b>	No dangerous reactions known under normal conditions of use.
<b>Chemical Stability</b>	The product is stable under recommended storage conditions.
<b>Possibility Of Hazardous Reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions To Avoid</b>	Elevated temperatures.
<b>Incompatible Materials</b>	Strong oxidizing agents. Reducing agents. Strong acids. Strong bases.
<b>Hazardous Decomposition Products</b>	Thermal decomposition generates : Carbon oxides (CO, CO <sub>2</sub> ).

**SECTION 11: Toxicological information****Information on toxicological effects**

Acute toxicity No classified

Maleic acid (110-16-7)

LD50 oral rat	708 mg/kg (Source: IUCLID)
LD50 dermal rabbit	1560 mg/kg (Source: NLM_CIP)
LC50 inhalation rat (mg/l)	> 720 mg/m <sup>3</sup> 1 h; (Source: NLM_CIP)

**Skin corrosion/irritation:** Causes severe skin burns and eye damage. Not classified.

pH: ≤ 2

**Serious eye damage/irritation:** No data

available pH: ≤ 2

**Respiratory or skin sensitization:** May cause an allergic skin reaction.**Germ cell mutagenicity:** No data available**Carcinogenicity:**

- 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.
- 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:** No data available**Teratogenicity:** No data available**Specific target organ toxicity (single exposure):** No data available**Specific target organ toxicity (repeated exposure):** No data available**Aspiration hazard:** No data available**Information on the likely routes of exposure:** Routes of entry anticipated: Oral, Dermal, and Inhalation.

#### Potential acute health effects

**Eye contact:** Causes serious eye damage.  
**Inhalation:** May cause respiratory irritation.  
**Skin contact:** Harmful in contact with skin. May cause an allergic skin reaction.  
**Ingestion:** May cause a light irritation of the linings of the mouth, throat, and gastrointestinal tract.

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

**Eye contact:** No specific data  
**Inhalation:** No specific data  
**Skin contact:** No specific data  
**Ingestion:** No specific data

#### 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

##### Potential chronic health effects: Not available

**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

Not available.

## SECTION 12: Ecological information

<b>Toxicity</b>	No data available
<b>Persistence and degradability</b>	No data available
<b>Bioaccumulative potential</b>	No data available
<b>Mobility in soil</b>	No data available
<b>Other adverse effects</b>	No data available

## SECTION 13: Disposal considerations

#### Disposal methods

Waste treatment methods : Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.  
Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

## SECTION 14: Transport information

**In accordance with DOT** Transport document description : UN3265 Corrosive liquid, acidic, organic, n.o.s. (Maleic Acid), 8, III

UN-No.(DOT) : 3265

DOT NA no. : UN3265

Proper Shipping Name (DOT) : Corrosive liquid, acidic, organic, n.o.s. (Maleic Acid)

Department of Transportation (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Hazard Classes

Hazard labels (DOT) : 8 - Corrosive



Packing group (DOT) : III - Minor Danger

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

Additional information Other information : No supplementary information available.

### Transport by sea

No additional information available

### Air transport

No additional information available

Special precautions for user: Transport within users 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.

## SECTION 15: Regulatory information

### U.S. Federal regulations

TMB Stop Solution (450 nm)

All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory All the constituents of this preparation are registered in the EINECS inventory or in the ELINCS list SARA Section 311/312 Hazard Classes Delayed (chronic) health hazard

### Maleic acid (110-16-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on United States SARA Section 313

RQ (Reportable quantity, section 304 of EPA's List of 5000 lb Final Lists) :

### Canada inventory

No additional information available



**California Proposition 65**

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

**Maleic acid (110-16-7)**

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

## SECTION 16: Other information

**Indication of changes** : 30-Apr-15

**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:**

- H314 – Causes severe skin burns and eye damage
- H317 – May cause an allergic skin reaction.
- P264 – Wash hands, forearms, and exposed areas thoroughly after handling.
- P261 – Avoid breathing fume, mist, vapors, spray
- Do not breathe dust/fume/gas/mist/vapors/spray
- P272 – Contaminated work clothing must not be allowed of the workplace
- P280 – Wear protective gloves/ protective clothing/ eye protection/ face protection
- If swallowed: rinse mouth. Don NOT induce vomiting
- P301+P330+P331 – IF ON SKIN: Wash with plenty of soap and water.
- P302 + P352 – if on skin (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower
- P303+P361+P353 – If inhaled: Remove person to fresh air and keep comfortable for breathing
- P304+P340 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P305 + P351 + P338 – Immediately call a POISON CENTER or doctor/ physician.
- P321 – Specific treatment (see Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work on this label)
- P333+P313 – If skin irritation or rash occurs: Get medical advice/attention
- P362+P364 – Take off contaminated clothing and wash it before reuse
- P363 – Wash contaminated clothing before reuse.
- P405 – Store locked up
- P501 – Dispose of contents and container in accordance with all local, regional, national, and international regulations.

**NFPA health hazard** : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

**NFPA fire hazard** : 0 - Not combustible

**NFPA reactivity** : 0 - Not reactive when mixed with water

**HMIS III Rating**

**Health** : 2- Moderate Hazard

**Flammability** : 0 - Minimal Hazard

**Physical** : 0 - Minimal Hazard

