



Cell Signaling

TECHNOLOGY®

SAFETY DATA SHEET (SDS): According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

Issuing Date: 2014-09-17

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Version: 1

SECTION 1. Identification

Product identifier

Product number 7002
Product name STOP Solution
UN number UN3265

Recommended use of the chemical and restrictions on use

Identified uses This product is intended for research purposes only.
Uses advised against This product is not intended for use in diagnostic procedures or therapeutics.
This product is not intended for use in humans or animals.

Manufacturer, importer, supplier

Manufacturer address Cell Signaling Technology, Inc.
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Danvers, MA 01923
United States
TEL: +1 978 867 2300
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Website www.cellsignal.com
Email address support@cellsignal.com
Company phone number 978-867-2300
Emergency telephone number In case of emergency call CHEMTREC 1-800-424-9300

SECTION 2. Hazard(s) identification

Classification

This substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Specific target organ toxicity - single exposure (STOT SE)	Category 3

GHS Label elements, including precautionary statements



Signal Word

Danger

Hazard statement(s)

Harmful if swallowed
Causes severe skin burns and eye damage
May cause an allergic skin reaction
May cause respiratory irritation

Precautionary Statement(s)

Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
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 or doctor/physician
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell

Supplementary Hazard Information

Hazards not otherwise classified (HNOC) None.

SECTION 3. Composition/information on ingredients

Synonyms 2-Butenedioic acid (Z)-; cis-Butenedioic acid; cis-1,2-Ethylenedicarboxylic acid; Toxilic acid

Chemical Name	CAS No	Weight %
maleic acid	110-16-7	30-60

SECTION 4. First-aid measures

Eye contact Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.

Skin contact Immediate medical attention is required. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Wash off immediately with soap and plenty of water.

Inhalation Move to fresh air. Immediate medical attention is required. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Remove from exposure, lie down this is a test. Clean mouth with water. If swallowed, do not induce vomiting - seek medical advice.

Most important symptoms and effects, both acute and delayed

Significant esophageal or gastrointestinal tract irritation or burns may occur following ingestion. Respiratory tract irritation, if severe, can progress to pulmonary edema which may be delayed in onset up to 24 to 72 hours after exposure in some cases.

Indication of any immediate medical attention and special treatment needed

May cause sensitization of susceptible persons. Treat symptomatically.

Advice for emergency responders

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Protection of first-aiders Use personal protective equipment. Avoid contact with skin, eyes and clothing.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Avoid contact with skin, eyes and clothing. Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Do not allow material to contaminate ground water system. Should not be released into the environment. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically and collect in suitable container for disposal. Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Clean contaminated surface thoroughly. Prevent product from entering drains. Dam up. After cleaning, flush away traces with water.

SECTION 7. Handling and storage

Precautions for safe handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation at machinery.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep away from direct sunlight.

Packaging material No information available.

Incompatible products Incompatible with strong acids and bases. Incompatible with oxidizing agents.

SECTION 8. Exposure controls/personal protection

Control parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

Eye/face protection

Tightly fitting safety goggles. Face-shield.

Skin and body protection

Wear protective gloves/clothing.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures

When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. For environmental protection, remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection.

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Odor	No information available
Color	Colorless
Odor Threshold	No information available
pH	1.2 @ 20 °C
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available.
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper flammability limit	No information available.
Lower flammability limit	No information available.
Vapor pressure	No information available
Vapor density	No information available
Relative density	No information available
Solubility	No information available.
Solubility in other solvents	No information available
Partition coefficient: n-octanol/water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available.
Explosive properties	No information available
Oxidizing properties	No information available
VOC content	No information available
Viscosity	No information available.
Density	No information available.

SECTION 10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Hazardous reactions None under normal processing.
Hazardous polymerization None under normal processing.

Conditions to Avoid

Exposure to air or moisture over prolonged periods.

Incompatible Materials

Incompatible with strong acids and bases. Incompatible with oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11. Toxicological information**Information on likely routes of exposure**

Inhalation May be harmful if inhaled. Aerosol expected to be irritating based on components.
Eye contact May cause irreversible damage to eyes.
Skin contact Corrosive to skin. Prolonged contact with skin is harmful.
Ingestion Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tract.

Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
maleic acid	708 mg/kg (Rat)	1,560 mg/kg (Rabbit)	> 0.72 mg/L (Rat) 1h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Symptoms Significant esophageal or gastrointestinal tract irritation or burns may occur following ingestion. Respiratory tract irritation, if severe, can progress to pulmonary edema which may be delayed in onset up to 24 to 72 hours after exposure in some cases.

Skin corrosion/irritation Causes burns.
Serious eye damage/eye irritation Risk of serious damage to eyes.

Sensitization May cause sensitization by skin contact. May cause sensitization of susceptible persons.
Mutagenic effects Negative in the Ames test.
Carcinogenicity No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity No information available.
STOT - single exposure Respiratory system.
STOT - repeated exposure No information available.
Neurological effects No information available.
Aspiration Hazard No information available.

SECTION 12. Ecological information

Ecotoxicity

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
maleic acid	-	LC50 5 mg/L (Pimephales promelas) 96 h	EC50 250 - 400 mg/L (Daphnia magna) 48 h

Persistence and degradability Product is biodegradable.
Bioaccumulation Not likely to bioaccumulate.
Mobility Will likely be mobile in the environment due to its water solubility

Chemical Name	Octanol-Water Partition Coefficient
maleic acid	0.32

Other adverse effects

No information available.

SECTION 13. Disposal considerations

Waste Disposal Methods

Should not be released into the environment.

Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

SECTION 14. Transport information

DOT

UN number UN3265
UN proper shipping name Corrosive liquid, acidic, organic, n.o.s.* (maleic acid)
Transport hazard class(es) 8
Packing group III
Special provisions IB3, T7, TP1, TP28
Emergency response guide number 153

IATA

UN number UN3265
UN proper shipping name Corrosive liquid, acidic, organic, n.o.s.* (maleic acid)
Transport hazard class(es) 8
Packing group III
ERG code 8L

SECTION 15. Regulatory information

North American Inventory Listing

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL

maleic acid	Listed	Not Listed	Listed	Not Listed
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Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

	Class E - Corrosive Material at >= 1% Class D2B - Toxic Material at >= 1%
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SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances	CWA - Bioaccumulative Chemicals of Concern (BCCs)
maleic acid	5000 lb	Not Listed	Not Listed	Listed	Not Listed

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
maleic acid	5000 lb	Not Listed

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product contains the following U.S. State Right to Know chemicals:

Chemical Name	New Jersey	Massachusetts	Pennsylvania
maleic acid	Listed	Listed	Listed

U.S. FIFRA Label Information

This product does not contain any substances regulated as pesticides.

US Commerce Department - Export Administration Regulations Information

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

U.S. Drug Enforcement Administration Information

This product does not contain any substances regulated under the DEA.

SECTION 16. Other information

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet