

Safety Data Sheet

Australia

Section 1. Identification

Product name **PhastGel™ Gradient - 4-15**

Catalogue Number **17-0678-01**



9 0 1 7 0 6 7 8 0 1

Product type Solid.

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

Identified uses

- ☒ Analytical chemistry.
- ☒ Use in laboratories
- ☒ Scientific research and development

Company details

Manufacturer

Cytiva
Amersham Place
Little Chalfont
Buckinghamshire
HP7 9NA United Kingdom
+44 0800 515 313

Supplier

Cytiva Australia
Level 11, 32 Phillip Street
Parramatta
Sydney 2150
New South Wales
Australia
tfn: 18 0015 0522

Emergency telephone number **000** and +61 2 9846 4000

Section 2. Hazard(s) identification

Classification of the substance or mixture ☒ GERM CELL MUTAGENICITY - Category 1
☒ CARCINOGENICITY - Category 1

☒ Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 85%
☒ Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 85%
☒ Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 85%

GHS label elements

Hazard pictograms



Signal word

DANGER

Hazard statements

☒ May cause genetic defects.
☒ May cause cancer.

Precautionary statements

Prevention

☒ Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response

☒ If exposed or concerned: Get medical attention.

Storage

☒ Store locked up.

Disposal

☒ Dispose of contents and container in accordance with all local, regional, national and international regulations.



Supplemental label elements ☒ Not applicable.

Other hazards which do not result in classification ☒ None known.

Section 3. Composition and ingredient information

Substance/mixture Mixture

Other means of identification Not available.

CAS number/other identifiers

CAS number ☒ Not applicable.

EC number Mixture.

Ingredient name	% (w/w)	CAS number
<input checked="" type="checkbox"/> Acrylamide	0.1 - 0.2	79-06-1

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	<input checked="" type="checkbox"/> 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. Get medical attention.
Inhalation	<input checked="" type="checkbox"/> 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	<input checked="" type="checkbox"/> Flush contaminated 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. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	<input checked="" type="checkbox"/> 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. Get medical attention. 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	<input checked="" type="checkbox"/> No known significant effects or critical hazards.
Inhalation	<input checked="" type="checkbox"/> No known significant effects or critical hazards.
Skin contact	<input checked="" type="checkbox"/> No known significant effects or critical hazards.
Ingestion	<input checked="" type="checkbox"/> No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	<input checked="" type="checkbox"/> No specific data.
Inhalation	<input checked="" type="checkbox"/> No specific data.
Skin contact	<input checked="" type="checkbox"/> No specific data.
Ingestion	<input checked="" type="checkbox"/> No specific data.

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

Notes to physician	<input checked="" type="checkbox"/> In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	<input checked="" type="checkbox"/> No specific treatment.
Protection of first-aiders	<input checked="" type="checkbox"/> 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	No specific fire or explosion hazard.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen 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.
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.

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 spilled material. 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 spilled 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).

Methods and material for containment and cleaning up

Small spill	Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large spill	Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. 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. 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 8°C (39.2 to 46.4°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. 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

Ingredient name	Exposure limits
Acrylamide	Safe Work Australia (Australia, 4/2018). Absorbed through skin. Skin sensitizer. TWA: 0.03 mg/m ³ 8 hours.
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.
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: safety glasses with side-shields.
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	Solid. [Polyacrylamide Gel]
Colour	Colourless.
Odour	Odourless.
Flammability (solid, gas)	Not available.
Solubility	Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	Not available.
Decomposition temperature	700°C (1292°F)
Flow time (ISO 2431)	Not available.

Aerosol product

Flame duration	Not applicable.
-----------------------	-----------------

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	Under normal conditions of storage and use, hazardous reactions will not occur.
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.



Section 11. Toxicological information

Information on toxicological effects**Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
Acrylamide	LD50 Dermal	Rabbit	1150 mg/kg	-
	LD50 Oral	Rat	124 mg/kg	-

Irritation/Corrosion

Not available.

Sensitisation

Not available.

Mutagenicity

Not available.

Conclusion/Summary Can cause heritable genetic effects.

Carcinogenicity

Not available.

Conclusion/Summary Can cause cancer.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acrylamide	Category 2	Not determined	Not determined

Aspiration hazard

Not available.

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

Potential acute health effects

Eye contact	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.

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 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	Suspected of causing cancer. Can cause heritable genetic effects.

Potential chronic health effects

Not available.

General	No known significant effects or critical hazards.
----------------	---



Carcinogenicity	May cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	May cause genetic defects.
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)
Acrylamide	124	1150	N/A	N/A	1.5

Other information Adverse symptoms include the following: Suspected of causing cancer.

Section 12. Ecological information**Toxicity**

Product/ingredient name	Result	Species	Exposure
Acrylamide	Acute EC50 98000 µg/l Fresh water	Daphnia - Daphnia magna - Instar	48 hours
	Acute EC50 85000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Chronic NOEC 2.86 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acrylamide	-	100%; 28 day(s)	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Acrylamide	-0.9	1.44	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) 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	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
Proper shipping name	-	-	-	-
Class	-	-	-	-
Label				
PG	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-



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 Annex II of Marpol and the IBC Code

Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine 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 (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.



Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	All components are listed or exempted.
Europe	Not determined.
United States	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
China	All components are listed or exempted.
Japan	 Japan inventory (ENCS): All components are listed or exempted. Japan inventory (ISHL): Not determined.
Malaysia	 Not determined
New Zealand	All components are listed or exempted.

Section 16. Any other relevant information

History


Date of printing	05 May 2020	Date of previous issue	04 January 2016
Date of issue	03 October 2019	Version	6

sds_author@cytiva.com

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
 GERM CELL MUTAGENICITY - Category 1	Calculation method
CARCINOGENICITY - Category 1	Calculation method

 Indicates information that has changed from previously issued version.

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.

