



SAFETY DATA SHEET

United States

Section 1. Identification

Product name Cell Boost™ 7B - ADCF

Catalogue Number SH31120.03



Other means of identification Not available.

Product type Liquid.

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

Identified uses

For Further Manufacturing or Research Use. Not for Diagnostic or Therapeutic Use.

Supplier / Manufacturer

Cytiva Austria
Krempelstr. 5
4061 Pasching
AUSTRIA
Tel. (+43) 7229 64865
Fax (+43) 7229 64866

HyClone Laboratories
925 West 1800 South
Logan, Utah 84321
Phone: (435) 792-8000

Cytiva Singapore
1 Maritime Square #13-01
Harbourfront Centre
Singapore 099253

Cytiva Singapore
25 Tuas South Street 1
Singapore 638034

Cytiva
Amersham Place
Little Chalfont
Buckinghamshire
HP7 9NA United Kingdom
+44 1494 508000

Cytiva USA
100 Results Way
Marlborough, MA 01752
1-800-526-3593

In case of emergency

INFOTRAC - 24 Hour number: 1-800-535-5053
Outside of the United States, call 24 Hour number: 001-352-323-3500 (Call Collect)

Section 2. Hazards identification

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A

GHS label elements

Hazard pictograms



Signal word

Warning



Hazard statements	Causes skin irritation. Causes serious eye irritation.
Precautionary statements	
Prevention	Wear protective gloves. Wear eye or face protection. Wash thoroughly after handling.
Response	IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
Storage	Not applicable.
Disposal	Not applicable.
Hazards not otherwise classified	None known.
Hazards identified when used	No known significant effects or critical hazards.

Section 3. Composition/information on ingredients

Substance/mixture	Mixture		
Other means of identification	Not available.		
Ingredient name	Synonyms	%	Identifiers
tyrosine	L-Tyrosine; 2-Tyrosine; L-.alpha.-Amino-.beta.-(p-hydroxyphenyl) propionic acid; Tyrosine, L-; 4-HYDROXY-L-PHENYLALANINE; ALPHA-AMINO-4-HYDROXYBENZENEPROPANOIC ACID, (S)-; ALPHA-AMINO-P-HYDROXYHYDROCINNAMIC ACID, (-); 2-AMINO-3-(4-HYDROXYPHENYL)PROPANOIC ACID, (S)-; 2-Amino-3-(4-hydroxyphenyl)propanoic acid; 3-(p-Hydroxyphenyl)-1-alanine; Tyrocine	≥3 - ≤7	CAS: 60-18-4
sodium hydroxide	caustic soda; Sodium hydroxide (Na (OH)); Sodium hydrate; Soda lye; Lye; sodium hydroxide, solid; sodium hydroxide, in aqueous solution; caustic soda, solid; caustic soda, in aqueous solution	≥1 - ≤5	CAS: 1310-73-2
L-tryptophan	2-Tryptophan; tryptophan; Tryptophan, L-; L-TRP; ALPHA-AMINO-3-INDOLEPROPIONIC ACID, L-; TRYPTOPHANE, L-; 2-Amino-3-indol-3-ylpropanoic acid; DL-tryptophan; (S)-2-Amino-3-(1H-indol-3-yl)propanoic acid; L-α-Aminoindole-3-propionic acid; (S)-2-AMINO-3-(3-INDOLYL)PROPIONIC ACID	≥1 - ≤5	CAS: 73-22-3

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 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	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	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 adverse health effects persist or are severe. 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	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.



Ingestion	Wash out mouth with water. Remove dentures if any. 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 if adverse health effects persist or are severe. 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 irritation.
Inhalation	No known significant effects or critical hazards.
Skin contact	Causes skin irritation.
Ingestion	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	No specific data.
Skin contact	Adverse symptoms may include the following: irritation redness
Ingestion	No specific data.

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

Notes to physician	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	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.

See toxicological information (Section 11)**Section 5. Fire-fighting 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	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: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides 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.
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. Put on appropriate personal protective equipment.
For emergency responders	If specialized 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 materials for containment and cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
--------------------	--



Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.
--------------------	---

Section 7. Handling and storage

Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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: 2 to 8°C (35.6 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. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name
tyrosine
sodium hydroxide

Exposure limits

None.
NIOSH REL (United States, 10/2020)
CEIL: 2 mg/m³.
CAL OSHA PEL (United States, 1/2025)
C: 2 mg/m³.
OSHA PEL (United States, 5/2018)
TWA 8 hours: 2 mg/m³.
OSHA PEL 1989 (United States, 3/1989)
CEIL: 2 mg/m³.
ACGIH TLV (United States, 1/2024)
C: 2 mg/m³.
None.

L-tryptophan

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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: chemical splash goggles.

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.
Color	Clear. Colorless.
Odor	Not available.
Odor threshold	Not available.
pH	11 to 11.4
Melting point/freezing point	Not available.
Boiling point or initial boiling point and boiling range	Not available.
Flash point	Not available.

	Ingredient name	Closed cup			Open cup		
		°C	°F	Method	°C	°F	Method
	tyrosine	176	348.8				

Burning time	Not applicable.
Burning rate	Not applicable.
Evaporation rate	Not available.
Flammability	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.

	Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
		mm Hg	kPa	Method	mm Hg	kPa	Method
	water	17.5	2.3				
	sodium hydroxide	0	0				
	L-tryptophan	0	0				

Relative vapor density	Not available.
Relative density	Not available.
Solubility in water	Not available.
Partition coefficient: n-octanol/water	Not applicable.
Auto-ignition temperature	Not available.

	Ingredient name	°C	°F	Method
	cystine	286	546.8	
	L-tryptophan	>400	>752	VDI 2263

Decomposition temperature	Not available.
SADT	Not available.

Viscosity	Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.
------------------	--

Flow time (ISO 2431)	Not available.
-----------------------------	----------------

Particle characteristics

Median particle size	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**

tyrosine

Result**Rat - Oral - LD50**

>5110 mg/kg

L-tryptophan

Rat - Oral - LD50

>16 g/kg

Toxic effects: Eye - Ptosis Behavioral - Coma Changes in Chemistry or Temperature - Body temperature decrease**Conclusion/Summary
[Product]**

Not available.

Skin corrosion/irritation**Product/ingredient name**

sodium hydroxide

Result**Human - Skin - Severe irritant**Duration of treatment/exposure: 24 hoursAmount/concentration applied: 10 pph**Conclusion/Summary
[Product]**

Not available.

Ingredient name

tyrosine

L-tryptophan

Conclusion/Summary

Causes skin irritation.

May cause skin irritation.

Serious eye damage/eye irritation**Product/ingredient name**

L-tryptophan

Result**Rabbit - Eyes - Severe irritant**Amount/concentration applied: 100 mg**Conclusion/Summary
[Product]**

Not available.

Ingredient name

tyrosine

L-tryptophan

Conclusion/Summary

Causes serious eye irritation.

May cause eye irritation.

Respiratory corrosion/irritation

Not available.

**Conclusion/Summary
[Product]**

Not available.

Ingredient name

tyrosine

Conclusion/Summary

May cause respiratory irritation.

Respiratory or skin sensitization

Not available.

Skin**Conclusion/Summary
[Product]**

Not available.

Respiratory**Conclusion/Summary
[Product]**

Not available.

Germ cell mutagenicity

Not available.

**Conclusion/Summary
[Product]**

Not available.



Carcinogenicity

Not available.

Conclusion/Summary [Product]	Not available.
---	----------------

Reproductive toxicity

Not available.

Conclusion/Summary [Product]	Not available.
---	----------------

Specific target organ toxicity (single exposure)**Product/ingredient name**

tyrosine

ResultSPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
(Respiratory tract irritation) - Category 3**Specific target organ toxicity (repeated exposure)**

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure	Not available.
---	----------------

Potential acute health effects

Eye contact	Causes serious eye irritation.
Inhalation	No known significant effects or critical hazards.
Skin contact	Causes skin irritation.
Ingestion	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	No specific data.
Skin contact	Adverse symptoms may include the following: irritation redness
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.

Conclusion/Summary [Product]	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.
Reproductive toxicity	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

N/A

Section 12. Ecological information**Toxicity****Product/ingredient name**

sodium hydroxide

Result**Acute - LC50 - Fresh water**Fish - Western mosquitofish - *Gambusia affinis* - Adult
125 ppm [96 hours]Effect: Mortality**Conclusion/Summary
[Product]**

Not available.

Ingredient name

tyrosine

L-tryptophan

Conclusion/Summary

Naturally occurring substance

Naturally occurring substance

Persistence and degradability

Not available.

Ingredient name

tyrosine

L-tryptophan

Conclusion/SummaryPossibly hazardous, short-term degradation products are not likely.
However, long-term degradation products may arise.

Not expected to bioaccumulate. Naturally occurring substance

Bioaccumulative potential**Product/ingredient name**

tyrosine

L-tryptophan

LogP_{ow}

-2.26

-1.06

BCF

-

1.37

Potential

Low

Low

Mobility in soil**Soil/Water partition coefficient**

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 minimized 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information**Product is not regulated as dangerous goods for transport.****Section 15. Regulatory information****U.S. Federal regulations****TSCA 8(a) CDR Exempt/Partial exemption:** Not determined**Clean Water Act (CWA) 311:** sodium hydroxide**TSCA 12(b) - Chemical export notification**

Not applicable.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)

Not listed

Clean Air Act Section 602 Class I Substances

Not listed

Clean Air Act Section 602 Class II Substances

Not listed

DEA List I Chemicals (Precursor Chemicals)

Not listed

DEA List II Chemicals (Essential Chemicals)

Not listed

SARA 302/304**Composition/information on ingredients**

No products were found.

SARA 304 RQ Not applicable.

SARA 311/312

Classification SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A

Composition/information on ingredients

Name	%	Classification
tyrosine	<5.0904	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
sodium hydroxide	<3.6	SKIN CORROSION - Category 1A SERIOUS EYE DAMAGE - Category 1
L-tryptophan	<2.0731	EYE IRRITATION - Category 2A

State regulations

Massachusetts The following components are listed: SODIUM HYDROXIDE
New York The following components are listed: Sodium hydroxide
New Jersey The following components are listed: SODIUM HYDROXIDE
Pennsylvania The following components are listed: SODIUM HYDROXIDE

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

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.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

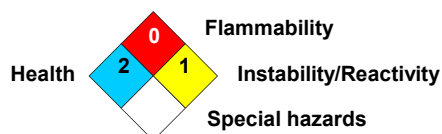
Inventory list

United States All components are active or exempted.

Canada inventory All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



Procedure used to derive the classification

Classification	Justification
SKIN IRRITATION - Category 2	Expert judgment
EYE IRRITATION - Category 2A	Expert judgment

History

Date of printing 4/15/2026
Date of issue/Date of revision 4/15/2026
Date of previous issue No previous validation
Version 1
 sds_author@cytiva.com



Key to abbreviations

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
UN = United Nations

References

Not available.

▀ 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.

