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SAFETY DATA SHEET

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product No.:	Product name:	Common name(s), synonym(s)
568071	BD Horizon™ BV421 Mouse Anti-Human DNAM-1 (CD226)	No data available
564089	BD Horizon™ BV421 Mouse Anti-Human CD31	No data available
564110	BD Horizon™ BV421 Rat Anti-Human IL-4	No data available
564164	BD Horizon™ BV421 Rat Anti-Human IL-2	No data available
564160	BD Horizon™ BV421 Mouse Anti-Human CD80	No data available
564283	BD Horizon™ BV421 Rat Anti-Integrin β7	No data available
564755	BD Horizon™ BV421 Mouse Anti-Human IL-21	No data available
564791	BD Horizon™ BV421 Mouse Anti-Human IFN-γ	No data available
564943	BD Horizon™ BV421 Mouse Anti-Human CD68	No data available
565230	BD Horizon™ BV421 Mouse Anti-Human Terminal Transferase (TdT)	No data available
565277	BD Horizon™ BV421 Mouse Anti-Human CD49d	No data available
565321	BD Horizon™ BV421 Mouse Anti-Human CD141	No data available
565446	BD Phosflow™ BV421 Mouse Anti-Human NF-κB p65 (pS529)	No data available
565444	BD Horizon™ BV421 Mouse Anti-Human CD42a	No data available
565562	BD Horizon™ BV421 Mouse Anti-Human TIM-3 (CD366)	No data available
565800	BD Horizon™ BV421 Rat Anti-Human CX3CR1	No data available
565801	BD Horizon™ BV421 Rat Anti-Human CX3CR1	No data available
565953	BD Horizon™ BV421 Mouse Anti-Human Neuropilin-1 (CD304)	No data available
565969	BD Horizon™ BV421 Mouse Anti-Human GARP	No data available



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565997	BD Horizon™ BV421 Mouse Anti-Human CD4	No data available
566244	BD Horizon™ BV421 Mouse Anti-Human CD126	No data available
566260	BD Horizon™ BV421 Mouse Anti-Human CD21	No data available
566261	BD Horizon™ BV421 Mouse Anti-Human CD107A	No data available
566262	BD Horizon™ BV421 Mouse Anti-Human CD54	No data available
566263	BD Horizon™ BV421 Mouse Anti-Human CD80	No data available
566273	BD Horizon™ BV421 Rat Anti-Human IL-2	No data available
566313	BD Horizon™ BV421 Mouse Anti-Human Activated Mac-1 (CD11b)	No data available
566427	BD Horizon™ BV421 Mouse Anti-Human BDCA-2 (CD303)	No data available
566703	BD Horizon™ BV421 Mouse Anti-Human CD4	No data available
566706	BD Horizon™ BV421 Mouse Anti-Human CD4	No data available
566907	BD Horizon™ BV421 Mouse Anti-Human CD4	No data available
567279	BD Horizon™ BV421 Mouse Anti-Human IL-3Rα (CD123)	No data available
567280	BD Horizon™ BV421 Mouse Anti-Human IL-3Rα (CD123)	No data available
567485	BD Horizon™ BV421 Mouse Anti-Human CD25	No data available
567524	BD Horizon™ BV421 Mouse Anti-Human CD39	No data available
567525	BD Horizon™ BV421 Mouse Anti-Human CD39	No data available
567788	BD Horizon™ BV421 Mouse Anti-Human CD206 (MMR)	No data available
567790	BD Horizon™ BV421 Mouse Anti-Human CD52	No data available
568026	BD Horizon™ BV421 Mouse Anti-Human HLA-A	No data available

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

Identified uses: Scientific and industrial laboratory use. For research use only.

Uses advised against: Not for use in diagnostic or therapeutic procedures.

1.3 Details of the supplier of the safety data sheet

Manufacturer

Becton, Dickinson and Company, BD Biosciences
155 North McCarthy Boulevard
95035 Milpitas, California

Telephone: 1 877 232 8995 or 1 800 424 9300

Fax: not available



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Contact Person: Business Unit Product Stewardship Team
E-mail: BDB-PS-SDS-LABEL@bd.com

Supplier

Becton Dickinson
1030 Eskdale Road, Winnersh Triangle
RG41 5TS Wokingham, Berkshire
United Kingdom

Telephone: 01189216499

1.4 Emergency telephone number: CHEMTREC 1 800 424 9300

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

The product has not been classified as hazardous according to the legislation in force.

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Not classified

2.2 Label Elements Not applicable

2.3 Other hazards

No data available.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

General information: No hazardous ingredients.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information: Get medical attention if symptoms occur.



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Inhalation:	Provide fresh air, warmth and rest, preferably in comfortable upright sitting position.
Skin Contact:	Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses.
Ingestion:	Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.
Personal Protection for First-aid Responders:	No data available.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms:	No data available.
Hazards:	No data available.

4.3 Indication of immediate medical attention and special treatment needed

Treatment:	No data available.
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SECTION 5: Firefighting measures

General Fire Hazards:	Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Use water spray to keep fire-exposed containers cool.
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5.1 Extinguishing media

Suitable extinguishing media:	Water spray, foam, dry powder or carbon dioxide. Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.

5.2 Special hazards arising from the substance or mixture:	Fire or excessive heat may produce hazardous decomposition products.
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5.3 Advice for firefighters

Special fire-fighting procedures:	No unusual fire or explosion hazards noted.
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Special protective equipment for fire-fighters:

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Contact local authorities in case of spillage to drain/aquatic environment. Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area.

6.1.1 For non-emergency personnel:

No data available.

6.1.2 For emergency responders:

No data available.

6.2 Environmental Precautions:

Avoid release to the environment.

6.3 Methods and material for containment and cleaning up:

Absorb spillage with suitable absorbent material. Prevent runoff from entering drains, sewers, or streams. See Section 8 of the SDS for Personal Protective Equipment. For waste disposal, see section 13 of the SDS.

6.4 Reference to other sections:

No data available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures:

No data available.

Local/Total ventilation:

No data available.

Safe handling advice:

When using do not eat, drink or smoke. Read and follow manufacturer's recommendations. Use personal protective equipment as required.

Contact avoidance measures:

No data available.

7.2 Conditions for safe storage, including any incompatibilities

Safe storage conditions:

Store in a cool, dry place. Keep container tightly closed.

Safe packaging materials:

No data available.

7.3 Specific end use(s):

Reserved for industrial and professional use. Read label before use.

SECTION 8: Exposure controls/personal protection



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8.1 Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

DNEL-Values

Remarks: DNEL-Values

Critical component	Type	Route of Exposure	Health Warnings	Remarks
Sodium azide (Na(N ₃))	General population	Eyes	Local effect;	No hazard identified
	Workers	Eyes	Local effect;	No hazard identified
	General population	Inhalation	Systemic, long-term; 87 µg/m ³	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 0.05 mg/kg	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 0.14 mg/kg	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 0.493 mg/m ³	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 0.05 mg/kg	Repeated dose toxicity
Sodium Chloride (NaCl)	General population	Inhalation	Systemic, long-term; 443.28 mg/m ³	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 2068.62 mg/m ³	Repeated dose toxicity
	Workers	Inhalation	Systemic, short-term; 2068.62 mg/m ³	Repeated dose toxicity
	General population	Inhalation	Systemic, short-term; 443.28 mg/m ³	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 126.65 mg/kg	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 295.52 mg/kg	Repeated dose toxicity
	Workers	Dermal	Systemic, short-term; 295.52 mg/kg	Repeated dose toxicity
	General population	Oral	Systemic, short-term; 126.65 mg/kg	Repeated dose toxicity
	General population	Dermal	Systemic, short-term; 126.65 mg/kg	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 126.65 mg/kg	Repeated dose toxicity
Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs.	Workers	Eyes	Local effect;	No hazard identified
	General population	Eyes	Local effect;	No hazard identified

PNEC-Values

Remarks: PNEC-Values

Critical component	Environmental compartment	PNEC-Values	Remarks
Sodium azide (Na(N ₃))	Aquatic (marine water)	0.015 µg/l	
	Sewage treatment plant	30 µg/l	
	Sediment (freshwater)	0.0167 mg/kg	
	Sediment (marine water)	0.00072 mg/kg	
	Aquatic (freshwater)	0.35 µg/l	
Sodium Chloride (NaCl)	Aquatic (freshwater)	5 mg/l	



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	Sewage treatment plant	500 mg/l	
	Soil	4.86 mg/kg	Soil
Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs.	Sediment (marine water)	1000 mg/kg	
	Sediment (freshwater)	1.141 mg/kg	
	Aquatic (freshwater)	0.2 mg/l	
	Aquatic (marine water)	0.02 mg/l	

8.2 Exposure controls

Appropriate Engineering Controls:

No special requirements under ordinary conditions of use and with adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection:

Wear safety glasses with side shields (or goggles).

Hand Protection:

Material: Chemical resistant gloves
Additional Information: Wash hands after contact.
Material: Suitable gloves can be recommended by the glove supplier.

Skin and Body Protection:

Wear a lab coat or similar protective clothing.

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Hygiene measures:

Observe good industrial hygiene practices.

Environmental Controls:

No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state: liquid

Form: liquid

Color: Colorless

Odor: Odorless

Odor Threshold: No data available.

Freezing point: No data available.

Boiling Point: No data available.

Flammability: No data available.

Upper/lower limit on flammability or explosive limits



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Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Flash Point:	No data available.
Auto-ignition temperature:	No data available.
Decomposition Temperature:	No data available.
pH:	7.10 - 7.30
Viscosity	
Dynamic viscosity:	No data available.
Kinematic viscosity:	No data available.
Solubility(ies)	
Solubility in Water:	Soluble
Partition coefficient (n-octanol/water):	No data available.
Vapor pressure:	No data available.
Relative density:	No data available.
Density:	No data available.
Relative vapor density:	No data available.

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity:	Material is stable under normal conditions.
10.2 Chemical Stability:	Material is stable under normal conditions.
10.3 Possibility of hazardous reactions:	Stable
10.4 Conditions to avoid:	Avoid exposure to high temperatures or direct sunlight.
10.5 Incompatible Materials:	Metals. Water reactive material.
10.6 Hazardous Decomposition Products:	Stable; however, may decompose if heated.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Inhalation:	No data available.
Skin Contact:	No data available.



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Eye contact: No data available.

Ingestion: No data available.

Acute toxicity (list all possible routes of exposure)

Oral

Product: Not classified for acute toxicity based on available data.

Dermal

Product: Not classified for acute toxicity based on available data.

Inhalation

Product: Not classified for acute toxicity based on available data.

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.



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11.2 Information on other hazards

Other information

Product: No data available.

SECTION 12: Ecological information

12.1 Toxicity:

Toxicity to Aquatic Plants

Product: No data available.

Toxicity to microorganisms

Product: No data available.

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

12.2 Persistence and Degradability

Biodegradation

Product: No data available.

12.3 Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log K_{ow})

Product: No data available.

12.4 Mobility in soil:



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Product: No data available.

12.5 Results of PBT and vPvB assessment:

Product: No data available.

12.6 Other adverse effects:

Other hazards

Product: No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

General information: Dispose of waste and residues in accordance with local authority requirements.

Disposal methods: No data available.

Contaminated Packaging: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

SECTION 14: Transport information

ADR

14.1 UN number or ID number: Not Regulated.
14.2 UN Proper Shipping Name: Not Regulated.
14.3 Transport Hazard Class(es)
 Class: Not Regulated.
 Label(s): Not Regulated.
 Hazard No. (ADR): Not Regulated.
 Tunnel restriction code: Not Regulated.
14.4 Packing Group: Not Regulated.
 Limited quantity: Not Regulated.
 Excepted quantity: Not Regulated.
14.5 Environmental Hazards: Not Regulated.
14.6 Special precautions for user: Not Regulated.

RID

14.1 UN number or ID number: Not Regulated.
14.2 UN Proper Shipping Name: Not Regulated.
14.3 Transport Hazard Class(es)
 Class: Not Regulated.
 Label(s): Not Regulated.
14.4 Packing Group: Not Regulated.
 Limited quantity: Not Regulated.



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Excepted quantity	Not Regulated.
14.5 Environmental Hazards	Not Regulated.
14.6 Special precautions for user:	Not Regulated.
IMDG	
14.1 UN number or ID number:	Not Regulated.
14.2 UN Proper Shipping Name:	Not Regulated.
14.3 Transport Hazard Class(es)	
Class:	Not Regulated.
Label(s):	Not Regulated.
EmS No.:	Not Regulated.
14.4 Packing Group:	Not Regulated.
Limited quantity	Not Regulated.
Excepted quantity	Not Regulated.
14.5 Environmental Hazards	Not Regulated.
14.6 Special precautions for user:	Not Regulated.
IATA	
14.1 UN number or ID number:	Not Regulated.
14.2 UN Proper Shipping Name:	Not Regulated.
14.3 Transport Hazard Class(es)	
Class:	Not Regulated.
Label(s):	Not Regulated.
14.4 Packing Group:	Not Regulated.
Passenger and cargo aircraft :	Not Regulated.
Limited quantity	Not Regulated.
Excepted quantity	Not Regulated.
14.5 Environmental Hazards	Not Regulated.
14.6 Special precautions for user:	Not Regulated.
14.7 Maritime transport in bulk according to IMO instruments	
Not applicable for product as supplied.	

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

EU Regulations

EU. REACH Annex XIV, Substances Subject to Authorization: None present or none present in regulated quantities.

EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC): None present or none present in regulated quantities.

EU. Regulation 2019/1021/EU on persistent organic pollutants (POPs) (recast), as amended: None present or none present in regulated quantities.

Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex I, Controlled Substances: None present or none present in regulated quantities.



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Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex II, New Substances:
None present or none present in regulated quantities.

UK EXP1: UK. GB PIC List, Regulation (EU) 649/2012 as amended by EU Exit Regulations S.I. 2019/720 and S.I. 2020/1567, as amended: None present or none present in regulated quantities.

UK EXP2: UK. GB PIC List, Regulation (EU) 649/2012 as amended by EU Exit Regulations S.I. 2019/720 and S.I. 2020/1567, as amended: None present or none present in regulated quantities.

UK EXP3: UK. GB PIC List, Regulation (EU) 649/2012 as amended by EU Exit Regulations S.I. 2019/720 and S.I. 2020/1567, as amended: None present or none present in regulated quantities.

UK BAN: UK. GB PIC List, Regulation (EU) 649/2012 as amended by EU Exit Regulations S.I. 2019/720 and S.I. 2020/1567, as amended: None present or none present in regulated quantities.

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I: None present or none present in regulated quantities.

15.2 Chemical safety assessment: No Chemical Safety Assessment has been carried out.
International regulations

Montreal protocol
Not applicable

Stockholm convention
Not applicable

Rotterdam convention
Not applicable

Kyoto protocol
Not applicable

SECTION 16: Other information

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Abbreviations and acronyms:

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; EIGA -



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European Industrial Gases Association; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Key literature references and sources for data: European Chemicals Agency (ECHA): Information on Chemicals.

Wording of the statements in section 2 and 3

: none

Training information: No data available.

Disclaimer:

Disclaimer:

The information contained herein has been obtained from various sources and is believed to be correct as of the date issued. However, neither BD nor any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability for a particular use 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. BD provides SDS in electronic form so the information may be more easily accessed. Due to the possibility of errors during transmission, BD makes no representations as to the completeness or accuracy of the information.



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