

SAFETY DATA SHEET

SIEMENS

Atellica™ IM Vitamin B12 (VB12)

SDS #:

10995715

Section 1. Identification

Product identifier : Atellica™ IM Vitamin B12 (VB12)
Product code : 10995715, 11206264
Product type : Liquid.

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

Not applicable.

Manufactured/supplied : Siemens Healthcare Diagnostics Inc.
 511 Benedict Avenue
 Tarrytown, NY 10591-5097 USA
 1-877-229-3711

Emergency telephone number (800) 424-9300 (CHEMTREC) (24/365)

Section 2. Hazards identification

OSHA/HCS status : Atellica™ VB12 ReadyPack Lite Reagent
 While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
 Atellica™ VB12 ReadyPack Solid Phase
 This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ☒ Atellica™ VB12 ReadyPack Lite Reagent
 Not classified.
☒ Atellica™ VB12 ReadyPack Solid Phase
 TOXIC TO REPRODUCTION - Category 2

Additional information : Not available.
 Sodium azide may react with lead or copper plumbing to form highly explosive metal azides.

GHS label elements

Hazard pictograms



Signal word : ☒ Atellica™ VB12 ReadyPack Lite Reagent
 No signal word.
☒ Atellica™ VB12 ReadyPack Solid Phase
 Warning

Hazard statements : Atellica™ VB12 ReadyPack Lite Reagent
 No known significant effects or critical hazards.
 Atellica™ VB12 ReadyPack Solid Phase
 H361 - Suspected of damaging fertility or the unborn child.

Precautionary statements

Prevention : ☒ Atellica™ VB12 ReadyPack Lite Reagent
 Not applicable.
☒ Atellica™ VB12 ReadyPack Solid Phase
 P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P280 - Wear protective gloves, protective

Section 2. Hazards identification

Response	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	clothing and eye or face protection. Not applicable. P308 + P313 - IF exposed or concerned: Get medical advice or attention.
Storage	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Not applicable. P405 - Store locked up.
Disposal	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	None known. None known.
Hazards not otherwise classified	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	None known. None known.

Section 3. Composition/information on ingredients

Substance/mixture	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Mixture Mixture
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Ingredient name	%	CAS number
Atellica™ VB12 ReadyPack Lite Reagent		
sodium azide	≤0.3	26628-22-8
Atellica™ VB12 ReadyPack Solid Phase		
disodium tetraborate decahydrate	≤3	1303-96-4
sodium azide	≤0.3	26628-22-8

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 necessary first aid measures

Eye contact	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. 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 if irritation occurs.
Inhalation	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. 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. 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

Section 4. First aid measures

Skin contact	: Atellica™ VB12 ReadyPack Lite Reagent	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.
	Atellica™ VB12 ReadyPack Solid Phase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. 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	: Atellica™ VB12 ReadyPack Lite Reagent	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	Atellica™ VB12 ReadyPack Solid Phase	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. 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	: Atellica™ VB12 ReadyPack Lite Reagent	No known significant effects or critical hazards.
	Atellica™ VB12 ReadyPack Solid Phase	No known significant effects or critical hazards.
Inhalation	: Atellica™ VB12 ReadyPack Lite Reagent	No known significant effects or critical hazards.
	Atellica™ VB12 ReadyPack Solid Phase	No known significant effects or critical hazards.
Skin contact	: Atellica™ VB12 ReadyPack Lite Reagent	No known significant effects or critical hazards.
	Atellica™ VB12 ReadyPack Solid Phase	No known significant effects or critical hazards.

Section 4. First aid measures

- Ingestion** : Atellica™ VB12 ReadyPack Lite Reagent No known significant effects or critical hazards.
 Atellica™ VB12 ReadyPack Solid Phase No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Atellica™ VB12 ReadyPack Lite Reagent No specific data.
 Atellica™ VB12 ReadyPack Solid Phase No specific data.
- Inhalation** : Atellica™ VB12 ReadyPack Lite Reagent No specific data.
 Atellica™ VB12 ReadyPack Solid Phase No specific data.
- Skin contact** : Atellica™ VB12 ReadyPack Lite Reagent No specific data.
 Atellica™ VB12 ReadyPack Solid Phase No specific data.
- Ingestion** : Atellica™ VB12 ReadyPack Lite Reagent No specific data.
 Atellica™ VB12 ReadyPack Solid Phase 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** : In case of fire, use water spray (fog), foam or dry chemical.
- 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
 halogenated compounds

- 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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".

Section 6. Accidental release measures

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. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry 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. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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. Avoid exposure during pregnancy. 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. Avoid breathing vapor or mist. 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 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 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	Exposure limits
Atellica™ VB12 ReadyPack Lite Reagent sodium azide	ACGIH TLV (United States, 1/2021). C: 0.29 mg/m ³ , (as Sodium azide) C: 0.11 ppm, (as Hydrazoic acid vapor) OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. CEIL: 0.1 ppm, (as HN3) CEIL: 0.3 mg/m ³ , (as NaN3) NIOSH REL (United States, 10/2020). Absorbed through skin. CEIL: 0.1 ppm, (as HN3) CEIL: 0.3 mg/m ³ , (NaN3)
Atellica™ VB12 ReadyPack Solid Phase disodium tetraborate decahydrate	OSHA PEL 1989 (United States, 3/1989).

Section 8. Exposure controls/personal protection

sodium azide

TWA: 10 mg/m³ 8 hours.
NIOSH REL (United States, 10/2020).
 TWA: 5 mg/m³ 10 hours.
ACGIH TLV (United States, 1/2021). [Borate compounds, Inorganic]
 TWA: 2 mg/m³ 8 hours. Form: Inhalable fraction
 STEL: 6 mg/m³ 15 minutes. Form: Inhalable fraction
ACGIH TLV (United States, 1/2021).
 C: 0.29 mg/m³, (as Sodium azide)
 C: 0.11 ppm, (as Hydrazoic acid vapor)
OSHA PEL 1989 (United States, 3/1989).
Absorbed through skin.
 CEIL: 0.1 ppm, (as HN₃)
 CEIL: 0.3 mg/m³, (as NaN₃)
NIOSH REL (United States, 10/2020).
Absorbed through skin.
 CEIL: 0.1 ppm, (as HN₃)
 CEIL: 0.3 mg/m³, (NaN₃)

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor 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

Physical state	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Liquid. Liquid.
Color	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Colorless. Colorless.
Odor	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Odorless. Odorless.
pH	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	7 6
Flash point	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	[Product does not sustain combustion.] [Product does not sustain combustion.]
Flammability (solid, gas)	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Not relevant/applicable due to nature of the product. Not relevant/applicable due to nature of the product.
Relative density	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	1 1
Solubility(ies)	:	
Not available.		
Solubility in water	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Not available. Not available.
Partition coefficient: n-octanol/water	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Not applicable. Not applicable.
Auto-ignition temperature	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Not available. Not available.
Viscosity	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Not available. Not available.
Aerosol product		
Type of aerosol	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Not applicable. Not applicable.


Section 10. Stability and reactivity

Reactivity	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	The product is stable. The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.	
Conditions to avoid	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	No specific data. No specific data.
Incompatible materials	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	No specific data. No specific data.
Hazardous decomposition products	: Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Under normal conditions of storage and use, hazardous decomposition products should not be produced. 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
 Atellica™ VB12 ReadyPack Lite Reagent sodium azide	LD50 Dermal LD50 Dermal LD50 Oral	Rabbit Rat Rat	20 mg/kg 50 mg/kg 27 mg/kg	- - -
Atellica™ VB12 ReadyPack Solid Phase disodium tetraborate decahydrate sodium azide	LD50 Oral LD50 Dermal LD50 Dermal LD50 Oral	Rat Rabbit Rat Rat	2660 mg/kg 20 mg/kg 50 mg/kg 27 mg/kg	- - - -

Conclusion/Summary : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Irritation/Corrosion

Not available.

Conclusion/Summary

Skin : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Eyes : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Respiratory : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Sensitization

Not available.

Conclusion/Summary

Skin : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Respiratory : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Mutagenicity

Not available.

Conclusion/Summary : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Carcinogenicity

Not available.

Conclusion/Summary : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Reproductive toxicity

Not available.

Conclusion/Summary : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Teratogenicity

Not available.

Conclusion/Summary : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Section 11. Toxicological information

Aspiration hazard

Not available.

Information on the likely routes of exposure : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Potential acute health effects

Eye contact : Atellica™ VB12 ReadyPack Lite Reagent No known significant effects or critical hazards.
Atellica™ VB12 ReadyPack Solid Phase No known significant effects or critical hazards.

Inhalation : Atellica™ VB12 ReadyPack Lite Reagent No known significant effects or critical hazards.
Atellica™ VB12 ReadyPack Solid Phase No known significant effects or critical hazards.

Skin contact : Atellica™ VB12 ReadyPack Lite Reagent No known significant effects or critical hazards.
Atellica™ VB12 ReadyPack Solid Phase No known significant effects or critical hazards.

Ingestion : Atellica™ VB12 ReadyPack Lite Reagent No known significant effects or critical hazards.
Atellica™ VB12 ReadyPack Solid Phase No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Atellica™ VB12 ReadyPack Lite Reagent No specific data.
Atellica™ VB12 ReadyPack Solid Phase No specific data.

Inhalation : Atellica™ VB12 ReadyPack Lite Reagent No specific data.
Atellica™ VB12 ReadyPack Solid Phase No specific data.

Skin contact : Atellica™ VB12 ReadyPack Lite Reagent No specific data.
Atellica™ VB12 ReadyPack Solid Phase No specific data.

Ingestion : Atellica™ VB12 ReadyPack Lite Reagent No specific data.
Atellica™ VB12 ReadyPack Solid Phase No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Potential delayed effects : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Long term exposure

Potential immediate effects : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Potential delayed effects : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available. Atellica™ VB12 ReadyPack Lite Reagent
Not available. Atellica™ VB12 ReadyPack Solid Phase

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 : Suspected of damaging fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Atellica™ VB12 ReadyPack Lite Reagent sodium azide	27	20	N/A	N/A	N/A
Atellica™ VB12 ReadyPack Solid Phase Atellica™ VB12 ReadyPack Solid Phase	140138.8	N/A	N/A	N/A	N/A
disodium tetraborate decahydrate	2660	N/A	N/A	N/A	N/A
sodium azide	27	20	N/A	N/A	N/A

Interactive effects : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Other information : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Atellica™ VB12 ReadyPack Lite Reagent sodium azide	Acute EC50 9200 µg/l Marine water Acute EC50 6.4 mg/l Fresh water	Algae - Macrocystis pyrifera Crustaceans - Simocephalus serrulatus - Larvae	96 hours 48 hours
	Acute EC50 4.2 mg/l Fresh water Acute LC50 0.68 mg/l Fresh water Chronic NOEC 5600 µg/l Marine water	Daphnia - Daphnia pulex - Larvae Fish - Lepomis macrochirus Algae - Macrocystis pyrifera	48 hours 96 hours 96 hours
Atellica™ VB12 ReadyPack Solid Phase disodium tetraborate decahydrate sodium azide	Acute EC50 1645 mg/l Fresh water Acute EC50 9200 µg/l Marine water Acute EC50 6.4 mg/l Fresh water Acute EC50 4.2 mg/l Fresh water Acute LC50 0.68 mg/l Fresh water Chronic NOEC 5600 µg/l Marine water	Crustaceans - Cypris subglobosa Algae - Macrocystis pyrifera Crustaceans - Simocephalus serrulatus - Larvae Daphnia - Daphnia pulex - Larvae Fish - Lepomis macrochirus Algae - Macrocystis pyrifera	48 hours 96 hours 48 hours 96 hours 96 hours

Conclusion/Summary : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Persistence and degradability

Conclusion/Summary : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase Not available.

Mobility : Atellica™ VB12 ReadyPack Lite Reagent Not available.
Atellica™ VB12 ReadyPack Solid Phase 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. Sodium azide may react with lead or copper plumbing to form highly explosive metal azides.
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Section 14. Transport information

DOT Classification

UN number	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Not regulated. Not regulated.
UN proper shipping name	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	- -
Transport hazard class(es)	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	- -
Packing group	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	- -
Environmental hazards	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	No. No.
Additional information	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	- -

TDG Classification

UN number	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Not regulated. Not regulated.
UN proper shipping name	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	- -
Transport hazard class(es)	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	- -
Packing group	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	- -
Environmental hazards	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	No. No.
Additional information	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	- -

ADR/RID

UN number	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	Not regulated. Not regulated.
UN proper shipping name	Atellica™ VB12 ReadyPack Lite Reagent Atellica™ VB12 ReadyPack Solid Phase	- -

Section 14. Transport information

Transport hazard class(es)	Atellica™ VB12 ReadyPack Lite Reagent	-
	Atellica™ VB12 ReadyPack Solid Phase	-

Packing group	Atellica™ VB12 ReadyPack Lite Reagent	-
	Atellica™ VB12 ReadyPack Solid Phase	-
Environmental hazards	Atellica™ VB12 ReadyPack Lite Reagent	No.
	Atellica™ VB12 ReadyPack Solid Phase	No.
Additional information	Atellica™ VB12 ReadyPack Lite Reagent	-
	Atellica™ VB12 ReadyPack Solid Phase	-

IMDG

UN number	Atellica™ VB12 ReadyPack Lite Reagent	Not regulated.
	Atellica™ VB12 ReadyPack Solid Phase	Not regulated.
UN proper shipping name	Atellica™ VB12 ReadyPack Lite Reagent	-
	Atellica™ VB12 ReadyPack Solid Phase	-
Transport hazard class(es)	Atellica™ VB12 ReadyPack Lite Reagent	-
	Atellica™ VB12 ReadyPack Solid Phase	-

Packing group	Atellica™ VB12 ReadyPack Lite Reagent	-
	Atellica™ VB12 ReadyPack Solid Phase	-
Environmental hazards	Atellica™ VB12 ReadyPack Lite Reagent	No.
	Atellica™ VB12 ReadyPack Solid Phase	No.
Additional information	Atellica™ VB12 ReadyPack Lite Reagent	-
	Atellica™ VB12 ReadyPack Solid Phase	-

IATA

UN number	Atellica™ VB12 ReadyPack Lite Reagent	Not regulated.
	Atellica™ VB12 ReadyPack Solid Phase	Not regulated.
UN proper shipping name	Atellica™ VB12 ReadyPack Lite Reagent	-
	Atellica™ VB12 ReadyPack Solid Phase	-
Transport hazard class(es)	Atellica™ VB12 ReadyPack Lite Reagent	-
	Atellica™ VB12 ReadyPack Solid Phase	-

Packing group	Atellica™ VB12 ReadyPack Lite Reagent	-
	Atellica™ VB12 ReadyPack Solid Phase	-
Environmental hazards	Atellica™ VB12 ReadyPack Lite Reagent	No.
	Atellica™ VB12 ReadyPack Solid Phase	No.
Additional information	Atellica™ VB12 ReadyPack Lite Reagent	-
	Atellica™ VB12 ReadyPack Solid Phase	-

Special precautions for user : Atellica™ VB12 ReadyPack Lite Reagent

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.

Atellica™ VB12 ReadyPack Solid Phase

Transport within user's premises:
always transport in closed containers that

Section 14. Transport information

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 IMO instruments : Not applicable.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 4(a) proposed test rules: glycine
TSCA 8(a) CDR Exempt/Partial exemption: Not determined

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

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Atellica™ VB12 ReadyPack Lite Reagent sodium azide	0.1	Yes.	500	-	1000	-
Atellica™ VB12 ReadyPack Solid Phase sodium azide	0.1	Yes.	500	-	1000	-

SARA 304 RQ : 1000000 lbs / 454000 kg

SARA 311/312

Classification : ☒ TOXIC TO REPRODUCTION - Category 2

Composition/information on ingredients

Name	%	Classification
Atellica™ VB12 ReadyPack Lite Reagent sodium azide	≤0.3	ACUTE TOXICITY (oral) - Category 2 ACUTE TOXICITY (dermal) - Category 1
Atellica™ VB12 ReadyPack Solid Phase disodium tetraborate decahydrate	≤3	TOXIC TO REPRODUCTION - Category 2
sodium azide	≤0.3	ACUTE TOXICITY (oral) - Category 2 ACUTE TOXICITY (dermal) - Category 1

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

Section 15. Regulatory information

California Prop. 65

⚠ WARNING: This product can expose you to Dicyano cobinamide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Atellica™ VB12 ReadyPack Solid Phase Dicyano cobinamide	-	-

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Section 16. Other information

History

Date of issue/Date of revision : 11/12/2022

Version : 2.04

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)
- UN = United Nations N/A = Not available SGG = Segregation Group

📌 Indicates information that has changed from previously issued version.