



## CERTIFICATE OF ANALYSIS

### Vitamin C Ascorbic Acid Crystalline Powder

BP/USP/EP

Original Specification: DFI-743011V06 Chemical formula:  $C_6H_8O_6$

Batch Number 4390801  
Best Before End March 2023

TEST	SPECIFICATION	RESULT
Appearance	White crystalline powder	Conforms
Assay	99 - 100.5 %	99.75%
Colour	Clear = < BY7	Conforms
Identification	Positive reaction	Conforms
pH (2% solution)	2.4 - 2.8	2.46
Heavy metals	Max 10 ppm	Max 5ppm
Cadmium	Max 1 ppm	Conforms
Sulphated ash	Max 0.1 %	Conforms
Arsenic	Max 1 ppm	Conforms
Loss on drying	Max 0.4 %	<0.4%
Melting point	About 190°C	190.6°C
Residual solvents	Pass	Conforms
Lead	Max 2 ppm	Conforms
Iron Content	Max 2 ppm	Conforms
Oxalic Acid	Max 0.2 %	Conforms
Specific Optical Rotation	+20.5° + 21.5°	+21.16°
Mercury	Max 0.1 ppm	Conforms
Copper	Max 5 ppm	Conforms
Total plate count	Max 100 cfu/g	Conforms
Total yeasts and moulds	Max 100 cfu/g	Conforms
Staphylococcus aureus	Negative	Conforms
Pseudomonas aeruginosa	Negative	Conforms
Salmonella	Negative	Conforms
Escherichia Coli	Negative	Conforms
pH (5% solution)	2.1 - 2.6	2.36

As provided by our supplier



Impurity C	Max 0.15 %	Max 0.15%
Impurity D	Max 0.15 %	Max 0.15%
Unspecified Impurity	Max 0.1 %	Max 0.1%
Total Impurities	Max 0.2 %	Max 0.2%
Impurity E	Max 0.2 %	<0.2%
Zinc	Max 0.25 ppm	Max 0.25ppm

As provided by our supplier

#### Exclusion of Liability

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### MAJOR ALLERGENS CHECKLIST FOR FOOD SUPPLIERS

Product	Vitamin C (Ascorbic Acid)

Regulation (EU) No 1169/2011 Annex II, (Applicable 13th December 2014) establishes a list of Substances or Products causing Allergies or Intolerances which must be indicated on the label of foodstuffs as they are likely to cause adverse reactions in susceptible individuals.

**1 Please fill in each column 1,3 & 4, with Yes or No and column 2 when applicable with the name of an ingredient. Do not leave empty spaces in 1 3, & 4.**

COMPONENT	PRESENT IN THE PRODUCT (Column 1)	SOURCE (Column 2)	PRESENT IN SAME LINE (Column 3)	PRESENT IN SAME PLANT (Column 4)
Cereals containing gluten (i.e. Wheat, rye, barley, oats, spelt, kamut or their hybridised strains and products thereof, except, a) wheat based glucose syrups including dextrose b) Wheat based maltodextrins c) glucose syrups based on barley d) Cereals used for making distillates or ethyl alcohol of agricultural origin for spirit drinks and other alcoholic beverages.	NO		NO	NO
Crustaceans and products thereof	NO		NO	NO
EGGS and products thereof	NO		NO	NO
FISH and products thereof except:- a) fish gelatine used as a carrier for vitamin or carotenoid preparations b) Fish gelatine or isinglass used as fixing agent in beer and wine.	NO		NO	NO
Peanuts and products thereof	NO		NO	NO
Soybeans and products thereof, except a) fully refined soybean oil and fat b) natural mixed tocopherols (E306) natural D-alpha tocopherol, natural D- alpha tocopherol acetate, natural D-alpha tocopherol succinate from soybean sources c) vegetable oils derived phytosterols and phytostrol esters from soybean sources d) Plant stanol ester produced from vegetable oil sterols from soybean sources.	NO		NO	NO
MILK and products thereof (including lactose), except a) whey used for making distillates or ethyl alcohol of agricultural origin for spirit drinks and other alcoholic beverages b) Lactitol	NO		NO	NO
Nuts i.e. almonds ( <i>Amygdalus communis L</i> ), hazelnuts ( <i>Corylus avellana</i> ), walnuts, ( <i>Juglans regia</i> ), cashews ( <i>Anacardium occidentale</i> ), pecan nuts ( <i>Carya illinoises (Wangenh) K. Koch</i> ), Brazil nuts ( <i>Bertholletia excela</i> ), pistachio nuts ( <i>Pistacia vera</i> ), macadamia nuts and Queensland nuts <i>Macadamia ternifolia</i> , and products thereof, except a) in terms of the total nuts used for making alcoholic distillates including ethyl alcohol of agricultural origin;	NO		NO	NO

Celery and Products thereof	NO		NO	NO
Mustard and products thereof	NO		NO	NO
Sesame seeds and products thereof	NO		NO	NO
Sulphur dioxide and sulphites at concentrations of more than 10 mg/kg or 10mg/litre in terms of the total SO <sub>2</sub> which are to be calculated for products as proposed ready for consumption or as reconstituted according to the instructions of the manufacturers	NO		NO	NO
Lupin and products thereof	NO		NO	NO
Molluscs and products thereof	NO		NO	NO

## 2. ADDITIONAL ALLERGENS

COMPONENT	PRESENT IN THE PRODUCT (Column 1)	SOURCE (Column 2)	PRESENT IN SAME LINE (Column 3)	PRESENT IN SAME PLANT (Column 4)
Lactose	NO		NO	NO
Cocoa	NO		NO	NO
Glutamate (E620 – E625)	NO		NO	NO
Chicken meat	NO		NO	NO
Coriander	NO		NO	NO
Corn / maize	NO		NO	NO
Legumes	NO		NO	NO
Beef	NO		NO	NO
Pork	NO		NO	NO
Carrot	NO		NO	NO

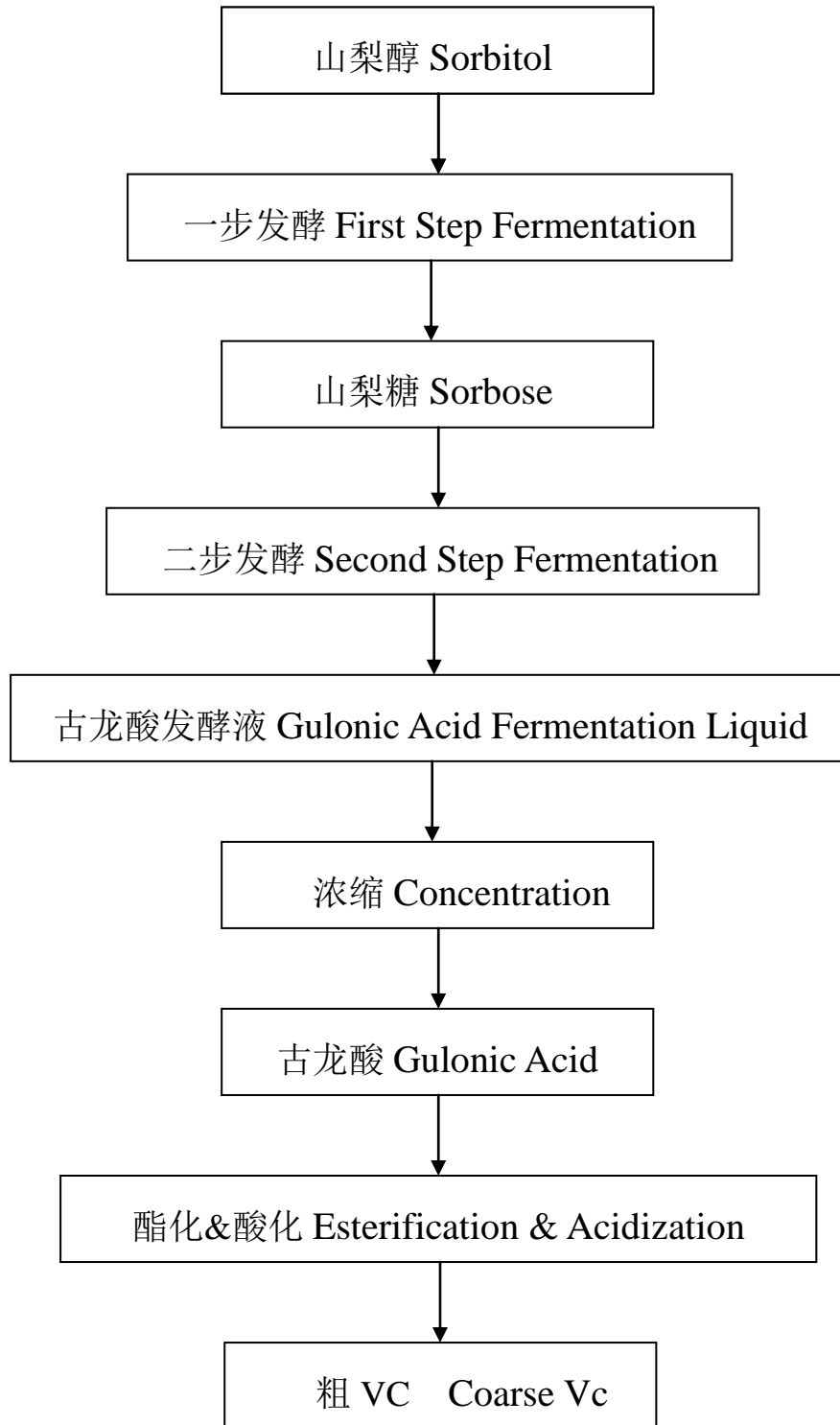
## 3. PREVENTION OF CROSS CONTAMINATION

Do you have procedures to avoid cross-contamination of the product with the allergens not present in the product, but noted in Columns 3 & 4		Yes
If YES please provide a short description	Our one production line only produce one kind of product. For all raw materials, we have strict control on allergen.	
If NO please provide an explanation		
The above is based on the main allergens referred to in the following: -		
FDA: The Food Allergen Labelling and Consumer Protection Act of 2004(August 2004) (Title II of Public Law		

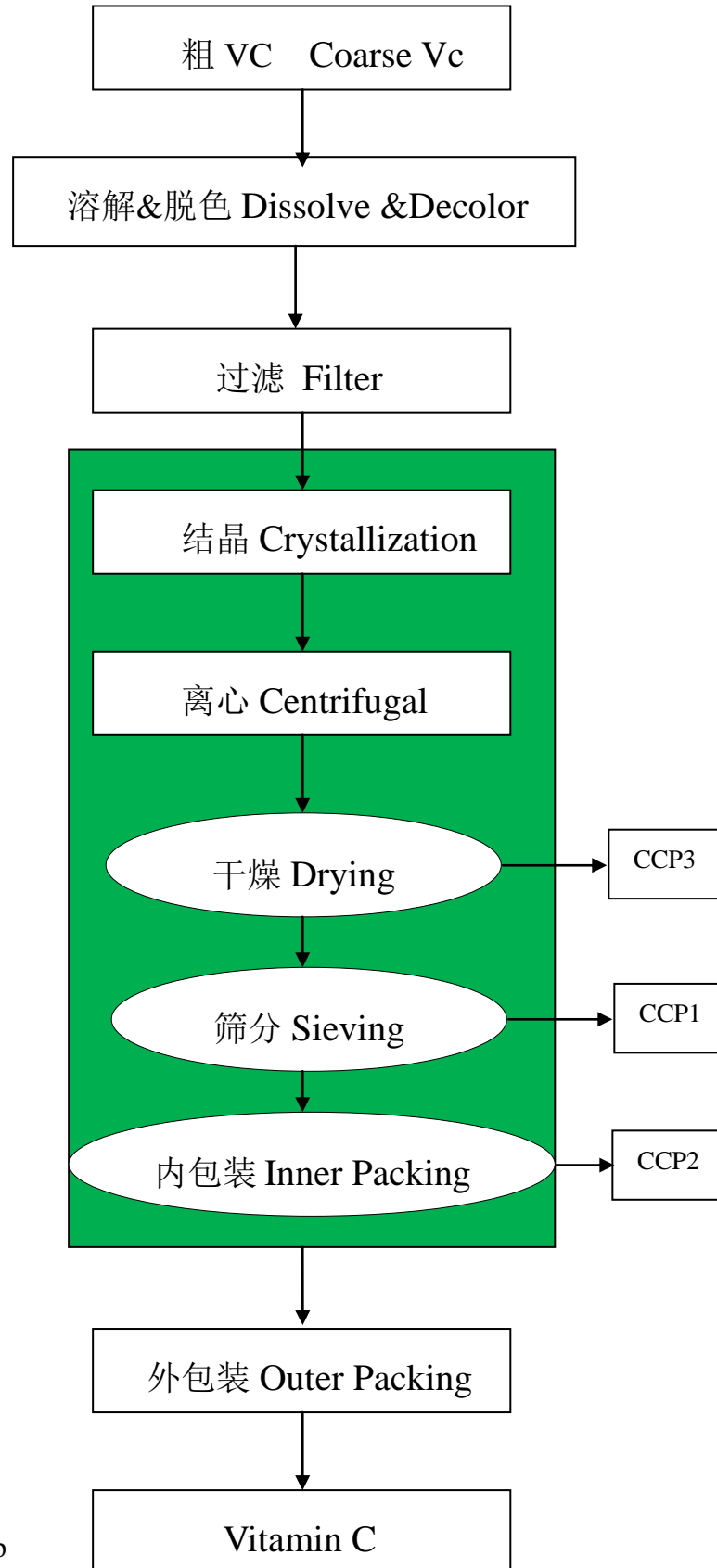
108-282) effective from 1<sup>st</sup> Jan 2006.

Codex Alimentarius: General Standard for the labelling of pre-packaged foods, Codex Standard 1-1985 (Rev 1-1991)

## VITAMIN C FLOW CHART(一)



## VITAMIN C FLOW CHART(二)



CCP1---SIEVING  
CCP2---METAL DETECTOR  
CCP3--- VACUUM DRYING

 Clean workshop



## GMO STATUS

Product Vitamin C (Ascorbic Acid)

GMO Status according to EU regulations 1829/2003 and 1830/2003

	Question	Yes / No / Details
1	Are you the manufacturer of this product?	✓
2	What is the starting raw material for this product?	Sorbitol
3	If the product is derived from a botanical source please state botanical name / animal origin etc.?	Corn
4	In which country is this raw material produced/harvested?	China
5	Is your product a GMO or is your product derived from a GMO?	No
6	Has GMO been used in processing aids or additives in connection with manufacturing of the product or any of its ingredients (i.e. micro-organisms / microbial rennin / enzymes etc?)	No
7	Is your product certified to be Identity Preserved (IP) by 3 <sup>rd</sup> party? If yes please attach a copy of your IP-Certificate	Manufacturer is
8	Have you tested your product to guarantee PCR negative status? If YES please attach a copy of your PCR Test Report	manufacture
9	If yes, please inform frequency of PCR negative testing _____	N/A
10	Do you have a written GMO policy? If YES please attach a copy	N/A
11	Do you have a written GMO procedure? If YES please attach a copy	N/A
12	Does any ingredient of the product trigger labelling as from GMO?	N/A



13	Is the product and/or its intermediates <u>manufactured</u> with the help of a micro-organism?	Yes
14	Please state species of micro-organism	Pseudomonas and Black acetic acid bacteria
15	Is the micro-organism genetically modified?	No
16	Please indicate the modification :	
17	Is the product and/or its intermediates <u>manufactured</u> with the help of enzymes?	No
18	Is the enzyme genetically modified?	N/A
19	Please indicate the modification	

***If for any reason there are any modifications/changes with this product, you are responsible for updating your records and notifying us immediately.***



## IRRADIATION CERTIFICATE

OUR MANUFACTURER CONFIRMS THAT THEIR VITAMIN C IS FREE FROM RADIOACTIVITY. THEY DO NOT CONTAIN ANY KIND OF RADIATION DURING THE COURSE OF PROCESS.



## SAFETY DATA SHEET

### Section 1 - Chemical product and company identification

MSDS name: L-(+)- the Ascorbic acid  
 Synonyms vitamin C

### Section 2 - Hazards Identification

#### EMERGENCY OVERVIEW

Light sensitive Air sensitive .  
 2.1 classification of the substance or mixture  
 Classification according to regulation (EC) No.1272/2008[CLP]  
 Not classified  
 Classification according to directive 67/548/EEC or 1999/45/EC  
 Not classified  
 Adverse physicochemical,human health and environmental effects  
 No additional information available  
 2.2 label elements  
 Labeling according to regulation (EC) No.1272/2008[CLP]  
 No labeling applicable  
 2.3 other hazards  
 Other hazards not contributing to the classification  
 exposure may produce an allergic reaction

compliance under 29 CFR 1910.1200, OSHA's Hazard Communication Standard 2012 (HAZCOM 2012)

### Section 3 - Composition, Information on Ingredients

Name	Product identifier	%	Classification according to 67/548/EEC
Ascorbic Acid	(CAS No) 50-81-7 (EC No) 200-066-2	≤100%	Not classified
Name	Product identifier	%	Classification according to (EC) No.1272/2008[CLP]
Ascorbic Acid	(CAS No) 50-81-7 (EC No) 200-066-2	≤100%	Not classified

### Section 4 - First Aid Measures

**Eyes** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid.

**Skin** Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

**Ingestion** Get medical aid. Wash mouth out with water.

**Inhalation** Remove from exposure to fresh air immediately, if not breathing give artificial respiration . If breathing is difficult, give oxygen.  
 Get medical aid if cough or other symptoms appear.

**Notes to Physician** Treat symptomatically and



## Section 5 - Fire Fighting Measures

General Information	As in any fire , wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
Extinguishing Media	In case of fire use water spray, dry chemical, carbon dioxide, or chemical foam.
Autoignition Temperature	Not available.
Flash Point	Not available.
NFPH Rating	Not published.
Explosion Limits	Lower Not available. Upper Not available.

## Section 6 - Accidental Release Measures

General Information	Use proper personal protective equipment as indicated in section
Spills/Leaks	Vacuum or sweep up material and place into a suitable disposal container.

## Section 7 - Handling And Storage

Handling	Avoid breathing dust , vapor , mist , or gas , Avoid contact with skin and eyes.
Storage	Stored in a cool dry place , stored in a tightly closed container.

## Section 8 - Exposure Controls, Personal Protection

Engineering Controls	Use adequate ventilation to keep airborne concentrations low.
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### PERSONAL PROTECTIVE EQUIPMENT

Eyes	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA ' s eye and face protection regulations in 29 OPR 1910.133 or European Standard EN166.
Skin	Wear appropriate protective gloves to prevent skin exposure.
Clothing	Wear appropriate protective clothing to prevent skin exposure.
Respirators	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN149. Always use a NIOSH or European standard EN 145 approved respirator when necessary.

## Section 9 - Physical and Chemical Properties

Physical State	Powder
Appearance	White
Odor	Not available
PH	Not available
Vapor Pressure	Negligible
Viscosity	Not available
Boiling Point	Not available
Freezing/Melting Point	190 °C
Decomposition Temperature	Not available
Solubility	333 Gs/ L water at 20 °C
Specific Gravity /Density	1.7000g/cm <sup>3</sup>
Molecular Formula	C <sub>5</sub> H <sub>8</sub> O <sub>5</sub>
Molecular Weight	176.13

## Section 10 - Stability and Reactivity

Chemical stability	Stable under normal temperatures and pressures.
Conditions to Avoid	Incompatible materials light exposure to
Incompatibilities with Other Materials	Strong oxidizing agents
Hazardous Decomposition Products	Carbon monoxide carbon dioxide



Hazardous Polymerization Will not occur

### Section 11 - Toxicological Information

RTECS #	CAS # 50-81-7: C 17650000
LD50/LC50	CAS # 50-81-7: Oral mouse; LD50 =3367mg/kg Oral rat: LD50=11900mg/kg
Carcinogenicity	L-(+)-Ascorbic acid Not listed by ACGIH IARC NIOSH NTP, or OSHA
Other	see actual entry in RTECS for complete information

#### POTENTIAL HEALTH EFFECTS

Eye	Contact cause transient eye irritation.
Skin	Low hazard for usual industrial handling.
Ingestion	Low hazard for usual industrial handling. May cause mild digestive tract irritation.
Inhalation	May cause respiratory tract irritation.
Chronic	Not available

Acute toxicity	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity(single exposure)	Not classified
Specific target organ toxicity(repeated exposure)	Not classified
Aspiration hazard	Not classified
Potential adverse human health effects and symptoms	To our knowledge,the product does not present any particular risk,under normal conditions of use.Large amounts: Not applicable

### Section 12 - Ecological Information

For further information contact Shandong Luwei Pharmaceutical Co., Ltd.

### Section 13 - Disposal Considerations

Dispose of in a manner consistent with local regulations.

### Section 14 - Transport Information

	US DOT	IMO	IATA	RID/ADR	Canadian TDG
Shipping Name	N/A				N/A
Hazard Class					
UN Number:					
Packing Group:					

### Section 15 - Regulatory Information

European/International Regulations  
 European Labeling in Accordance with EC Directives  
 Hazard Symbols: Not available.  
 Disk Phrases;  
 Safety Phrases;  
 S 24/25 Avoid contact with skin and eyes.  
 WGK (Water Danger/Protection)  
 CAS # 50-81-7:0  
 Canada



CAS#50-81-7 is listed on Canada's DSLADSL List.

CAS#50-81-7 is not listed on Canada's ingredient disclosure list.

Exposure Limits

US FEDERAL

TSCA

CAS # 50-81-7 is listed on the TSCA inventory.

## Section 16 - Additional Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.



## NUTRITIONAL / DIETARY INFORMATION

**Product**                      Ascorbic Acid

<b>1</b>	<b>CLASSIFICATION</b>	Yes/No
1.1	Does your product contain any animal-based products or derivatives?	NO
1.2	If "Yes", please state the source and issue BSE-TSE statement if applicable	
	Please indicate whether suitable for any of the following:	Yes/No
1.3	Kosher (please attach current certificate)	Manufacturer
1.4	Halal (please attach current certificate and complete Halal Declaration if not MUH)	Manufacturer
1.5	Vegetarian (Free from animal flesh (meat, fowl, fish or shellfish), meat or bone stock, animal or carcass fats, gelatin, aspic or any other ingredients resulting from slaughter)	Yes
1.5.1	Lacto-ovo-vegetarians (eat both dairy products and eggs)	Yes
1.5.2	Lacto-vegetarians (eat dairy products but avoid eggs)	Yes
1.6	Vegan (free from food from animals)	Yes
1.7	Diabetics	Yes
1.8	Coeliacs (gluten intolerance)	Yes



Dear Sir/Madam

**Re: Country of Origin**

**Product: Ascorbic Acid Crystalline Powder – DFI-743011**

MADAR Corporation hereby certify that the above product we supply to you is made in China.





DATE:Nov.8.2017

### Hazard Analysis of Ascorbic Acid

production process steps	Possible hazard (B) Biological (C) Chemical (P) Physical	Risk Assisment Seriousnes s of hazard	Possibility of occurrence	Judgment of harm 1 = No harm 2-4 = Non significant harm >4= significant harm	Judgment Basis	Control Method	CCP or OPRP or PRP
Magnet	(B) None (C) None  (P) Magnetic foreign bodies	2	2	4	Magnetic attenuation, Test its magnetism	Test its magnetism	●OPRP
Straight type metal detector	(B) None (C) None (P) Fe, Non-fe,SUS	3	2	6	The detector is not sensitive enough	Test the metal detector regularly	CCP

production process steps	Possible hazard		Risk Assisment		Judgment of harm 1 = No harm 2-4 = Non significant harm >4= significant harm	Judgment Basis	Control Method	CCP or OPRP or PRP
	(C)Chemical (P)Physical	Biological	Seriousnes s of hazard	Possibility of occurrence				
Bagging sealing	(B)	None						
	(C)	None						
	(P)	None						
Tunnel type metal detector	(B)	None						
	(C)	None						
	(P)	Fe, Non-fe,SUS	3	2	6	The detector is not sensitive enough	Test the metal detector regularly	CCP
Drying	(B)	None	3	2	6	Improper control for the drying vaccum,time and temperature	Proper control for the drying vaccum,time and temperature	CCP
	(C)	Residual solvent						
	(P)	VC change color	2	2	4	High temperature, low vacuum degree, long drying time	Strictly execute the position SOP	OPRP
	(C)	VC change color						
Sieving	(P)	None						
	(B)	None						
	(C)	None						
	(P)	Large particle foreign body, metal pollution	3	2	6	The screen is broken and the wire is off	Check the screen before,in and after the production	CCP





## SPECIFICATION

### Vitamin C

#### Ascorbic Acid Crystalline Powder

BP/USP/EP

#### DESCRIPTION

Appearance	White crystalline powder
CAS No.	50-81-7
BTN	29 36 27 00 000
Shelf life	36 Months from production date
Formula	C <sub>6</sub> H <sub>8</sub> O <sub>6</sub>
Country of origin	China
E number	E300

#### SPECIFICATIONS

Assay	99 - 100.5 %
Colour	Clear = < BY7
Identification	Positive reaction
pH (2% solution)	2.4 - 2.8
Heavy metals	Max 10 ppm
Cadmium	Max 1 ppm
Sulphated ash	Max 0.1 %
Arsenic	Max 1 ppm
Loss on drying	Max 0.4 %
Melting point	About 190°C
Residual solvents	Pass
Lead	Max 2 ppm
Iron Content	Max 2 ppm
Oxalic Acid	Max 0.2 %
Specific Optical Rotation	+20.5° + 21.5°
Mesh Size	40 to 80 mesh
Mercury	Max 0.1 ppm
Copper	Max 5 ppm
Packaging	25 Kg Cartons
pH (5% solution)	2.1 - 2.6
Impurity C	Max 0.15 %
Impurity D	Max 0.15 %
Unspecified Impurity	Max 0.1 %
Total Impurities	Max 0.2 %
Impurity E	Max 0.2 %
Zinc	Max 0.25 ppm

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10/04/2019 | Version 6



#### **MICROBIOLOGICAL**

Total plate count	Max 100 cfu/g
Total yeasts and moulds	Max 100 cfu/g
Staphylococcus aureus	Negative
Pseudomonas aeruginosa	Negative
Salmonella	Negative
Escherichia Coli	Negative

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10/04/2019 | Version 6