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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product	Ascorbic Acid BP USP FCC (Vitamin C)	**Revision date**	2026-11-16
Version	1.0	**Brand**	Richest

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

Product name	Ascorbic Acid BP USP FCC (Vitamin C)
Synonyms	l-ascorbic acid; ascorbic acid; vitamin C; 50-81-7; Ascoltin; Ascorbicap
CAS No.	50-81-7
EC No.	200-066-2
Molecular formula	C6H8O6
Molecular weight	176.12 g/mol
Relevant identified uses	Vitamin C / E300 antioxidant; Food, pharmaceutical and nutritional ingredient corresponding to the declared pharmacopoeial and food standards.
Uses advised against	No specific uses advised against were identified in the reviewed sources.
Company	Richest Group
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SECTION 2: Hazards identification

GHS Classification	Not classified as hazardous
Pictogram(s)	None
Signal word	None
Hazard statement(s)	None
Precautionary statement(s)	None
Other hazards	A strong reducing agent; A skin, eye, and respiratory tract irritant; [ICSC] Excessive doses (chronic ingestion or intravenous) can cause acute renal failure or nephropathy secondary to a metabolite, oxalic acid. Chronic ingestion of more than 4 g/day can produce nephropathy. [Olson, p. 445-6] No evidence of carcinogenicity in mice or rats; [NTP] May cause irritation; [Sigma-Aldrich MSDS]

SECTION 3: Composition/information on ingredients

Component	Ascorbic Acid BP USP FCC (Vitamin C)
CAS No.	50-81-7
EC No.	200-066-2
Classification	Not classified as hazardous

SECTION 3: Composition/information on ingredients

Concentration	99.0-100.5%

SECTION 4: First-aid measures

If inhaled	IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere.
In case of skin contact	IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.
In case of eye contact	First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.
If swallowed	DO NOT INDUCE VOMITING. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. Be prepared to transport the victim to a hospital if advised by a physician. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING.
Most important symptoms and effects	Cough after inhalation and redness after eye contact (ICSC 0379). Fisher A62 SDS states that no symptoms are reasonably foreseeable and recommends symptomatic treatment.
Indication of immediate medical attention	Treat symptomatically. Show this safety data sheet to medical personnel.

SECTION 5: Fire-fighting measures

Suitable extinguishing media	Use extinguishing media appropriate for the surrounding fire.
Unsuitable extinguishing media	No data available
Special hazards arising from the chemical	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)
Advice for firefighters	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

SECTION 6: Accidental release measures

Personal precautions and emergency procedures	Avoid contact with the material. Ensure adequate ventilation. Wear appropriate personal protective equipment.
Environmental precautions	Prevent uncontrolled release to drains, soil and watercourses.
Methods for containment and cleaning up	Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Collect the spilled substance into containers. If appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water.

SECTION 7: Handling and storage

Precautions for safe handling	Avoid contact with skin and eyes. Avoid formation or inhalation of dust, mist or vapour as applicable. Wash thoroughly after handling.

SECTION 7: Handling and storage

Conditions for safe storage, including incompatibilities	Store in cool, dry, ventilated area away from heat and sunlight in tightly closed original container

SECTION 8: Exposure controls/personal protection

Occupational exposure limit values	Fisher A62 SDS states that the product does not contain hazardous materials with occupational exposure limits established by the applicable regional regulatory bodies.
Biological limit values	No biological limit values were identified in the reviewed sources.
Appropriate engineering controls	Provide adequate ventilation. Eyewash facilities should be available where contact is possible.
Eye/face protection	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)
Skin and body protection	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)
Respiratory protection	Use suitable respiratory protection if exposure limits may be exceeded or dust, mist or vapour is generated.
Thermal hazards	Avoid heat and ignition sources. Auto-ignition is reported as 660 °C by Fisher and 380 °C by HSDB; dust-air mixtures can be explosive (Fisher A62 SDS; ICSC 0379; HSDB via PubChem).

SECTION 9: Physical and chemical properties

Physical state	White or almost white crystals / crystalline powder
Colour	White crystals (plates or needles)
Odour	Odorless
Melting point / freezing point	About 190-192 °C
Boiling point / boiling range	No data available
Flammability	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)
Explosion / flammability limits	Dust explosion is possible when powder or granular material is mixed with air (ICSC 0379).
Flash point	No data available
Auto-ignition temperature	380 °C
Decomposition temperature	190-192 °C
pH	2.1-2.6 (5% water solution)
Viscosity	Not applicable (solid; Fisher A62 SDS).
Solubility	Soluble in water
Partition coefficient n-octanol/water	[-1.85]
Vapour pressure	No data available
Density and/or relative density	1.65 g/cu cm at 25 °C
Relative vapour density	Not applicable (solid; Fisher A62 SDS).

SECTION 9: Physical and chemical properties

Particle characteristics	Crystalline powder; crystals are usually plates, sometimes needles, in the monoclinic system (HSDB via PubChem).
Specific optical rotation	+20.5° to +21.5°

SECTION 10: Stability and reactivity

Reactivity	May be sensitive to prolonged exposure to air and light. Sensitive to moisture. Soluble in water. Aqueous solutions are oxidized by air in a reaction that is accelerated by alkalis, iron and copper. The rate depends on the pH and on oxygen concentration.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	L-ASCORBIC ACID is a lactone. Reacts as a relatively strong reducing agent and decolorizes many dyes. Forms stable metal salts. Incompatible with oxidizers, dyes, alkalis, iron and copper. Also incompatible with ferric salts and salts of heavy metals, particularly copper, zinc and manganese (NTP, 1992).
Conditions to avoid	NO open flames. PREVENT DISPERSION OF DUST.
Incompatible materials	Strong oxidizing agents (Fisher A62 SDS); store separated from strong oxidants and strong bases (ICSC 0379).
Hazardous decomposition products	190-192 °C

SECTION 11: Toxicological information

Acute toxicity	LD50 Rat oral 11,900 mg/kg; LD50 Rat oral > 5000 mg/kg bw /From table/; LD50 Rat sc 5,000 mg/kg bw /From table/; LD50 Rat iv 1,000 mg/kg bw /From table/
Toxicological summary	IDENTIFICATION: Origin of the substance: Ascorbic acid is of both natural and synthetic origin. Natural origin: ascorbic acid is found in fresh fruit and vegetables. Citrus fruits are a particularly good source of ascorbic acid and also hip berries, acerola and fresh tea leaves. Ascorbic acid exists as colorless, or white or almost white crystals. It is odorless or almost odorless. It has a pleasant, sharp acidic taste. It is freely soluble in water and sparingly soluble in ethanol. It is practically insoluble in ether and chloroform.
Health effects	SYMPTOMS: Symptoms of exposure to this compound may include irritation of the skin, eyes and respiratory tract. Ingestion of large amounts may cause gastrointestinal distress and diarrhea. Exposure may also cause the formation of renal calcium oxalate calculi. There have been cases of allergic reaction with eczema, urticaria and asthma. The mucolytic effect of this compound might render the cervical mucus less permeable to spermatozoa.
Carcinogenicity	L-Ascorbic acid is not listed by IARC, NTP, ACGIH, OSHA or Mexico in the Fisher A62 SDS.

SECTION 12: Ecological information

Ecotoxicity	LC50 Species: /Oncorhynchus mykiss/ (Rainbow trout); Concentration: 1,020 mg/L for 96 hr /Conditions of bioassay not specified in source examined/
Persistence degradability	AEROBIC: Using a mixed microbial consortia enriched from untreated sewage samples collected in the vicinity of a primary treatment plant in Delhi, India, L-ascorbic acid exhibited 36.7 mg/L BOD, suggesting moderate susceptibility to biodegradation(1).
Bioaccumulative potential	An estimated BCF of 3 was calculated in fish for L-ascorbic acid(SRC), using a log Kow of -1.85(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

SECTION 12: Ecological information

Mobility in soil	The Koc of L-ascorbic acid is estimated as 10(SRC), using a log Kow of -1.85(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that L-ascorbic acid is expected to have very high mobility in soil.
Other adverse effects	L-Ascorbic acid is expected to undergo hydrolysis in the environment due to the presence of functional groups that hydrolyze under environmental conditions(1). L-Ascorbic acid is stable in the dry state but is easily oxidized in aqueous solution in the presence of air.
Environmental fate	TERRESTRIAL FATE: Based on a classification scheme(1), an estimated Koc value of 10(SRC), determined from a log Kow of -1.85(2) and a regression-derived equation(3), indicates that L-ascorbic acid is expected to have very high mobility in soil(SRC).
Aquatic toxicity	LC50 Oncorhynchus mykiss (rainbow trout) 1020 mg/L, 96 h; bioassay conditions were not specified in the source (HSDB via PubChem).
Bioaccumulation	Estimated fish BCF 3 from log Kow -1.85, indicating low bioconcentration potential (HSDB via PubChem).
Mobility	Estimated Koc 10, suggesting very high soil mobility. With pKa 4.70, ascorbic acid is expected to exist mainly as an anion in the environment (HSDB via PubChem).

SECTION 13: Disposal considerations

Product disposal methods	SRP: Expired or waste pharmaceuticals shall carefully take into consideration applicable DEA, EPA, and FDA regulations. It is not appropriate to dispose by flushing the pharmaceutical down the toilet or discarding to trash. If possible return the pharmaceutical to the manufacturer for proper disposal being careful to properly label and securely package the material.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal in accordance with local regulations.

SECTION 14: Transport information

UN Number (ADR/RID, IMDG, IATA)	Not regulated as dangerous goods
UN Proper Shipping Name	Not regulated as dangerous goods
Transport hazard class(es)	Not regulated as dangerous goods
Packing group	Not regulated as dangerous goods
Environmental hazards / Marine pollutant	No data available
Special precautions for user	Keep containers closed and secured during transport. Follow local transport requirements.

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product	No data available

SECTION 16: Other information

Full text of H-Statements	None
Revision date	2026-11-16
Version	1.0

SECTION 16: Other information

References	Supplier technical documents, public SDS/COA/TDS and regulatory sources reviewed. Public data citations are listed below. Public data sources: PubChem L-Ascorbic Acid (CID 54670067): https://pubchem.ncbi.nlm.nih.gov/compound/54670067 | Fisher Scientific Safety Data Sheet: L-Ascorbic acid, including A62 USP/FCC products, revision 18 December 2025: https://www.fishersci.com/store/msds?partNumber=A62500&productDescription=ASCORBIC+ACID+USP+POW+500GM&vendorId=VN00033897&countryCode=US&language=en | Fisher Chemical Ascorbic Acid, Powder/USP/FCC, A62 product family: https://www.fishersci.com/shop/products/ascorbic-acid-powder-usp-fcc-fisher-chemical-3/p-61096 | ICSC 0379 - Ascorbic Acid: https://www.inchem.org/documents/icsc/icsc/eics0379.htm
Abbreviations	CAS: Chemical Abstracts Service; ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road; IMDG: International Maritime Dangerous Goods; IATA: International Air Transport Association; SDS: Safety Data Sheet.
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