Folic Acid (USP)

Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Folic Acid (USP)
INCI Name: Folic acid
Synonyms: Pteroylglutamic acid
CAS Number: 59-30-3
EINECS Number:
Company Name: MakingCosmetics Inc.
Company Address: 35318 SE Center Street, Snoqualmie WA 98065 (USA)

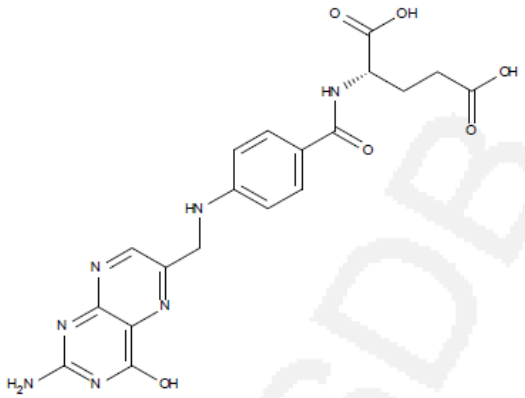
2. Hazards identification

Emergency Overview

Form	crystalline powder
Color	yellow to orange-yellow
Odor	almost odourless
Hazard Overview	- Weak dust explosion or dust fire hazard
Potential Health Effects	- Exposure: Inhalation, Ingestion
	- Acute Effects: May cause gastrointestinal effects., Signs and symptoms may include nausea, vomiting, diarrhea, constipation, cramps, and loss of appetite.
	- Chronic Effects: No adverse effects known
	- Carcinogenicity: not listed by NTP, IARC or OSHA

3. Composition/Information on ingredients

Characterization	Vitamin of the B group; for pharmaceutical preparations
Chemical name	- N-[4-[[(2-Amino-1,4-dihydro-4-oxo-6-pteridinyl)methyl]amino]-benzoyl]-L-glutamic acid
Percentage	≥97 %



4. First-aid measures

Eye contact	- rinse immediately with tap water for 10 minutes - open eyelids forcibly - consult a physician if irritation persists
Skin contact	- remove contaminated clothes, wash affected skin with water and soap - do not use any solvents
Inhalation	- remove the casualty to fresh air and keep him/her calm - in the event of symptoms get medical treatment
Note to physician	- treat symptomatically

5. Fire-fighting measures

Suitable extinguishing media	- water spray jet, dry powder, foam, carbon dioxide
Flash point (liquid)	not applicable
Specific hazards	- severe dust explosion hazard - formation of toxic and corrosive combustion gases (ammonia, hydrogen cyanide, nitrogen oxides) possible
Protection of fire-fighters	- precipitate gases/vapours/mists with water spray

6. Accidental release measures

Methods for cleaning up	- collect solids (avoid dust formation) and hand over to waste removal - rinse with plenty of water

7. Handling and storage

Handling

Technical measures	- processing in closed systems, if possible superposed by inert gas (e.g. nitrogen) - local exhaust ventilation necessary - take precautionary measures against electrostatic charging - avoid dust formation; high dust explosion hazard
Suitable materials	- stainless steel, aluminium, enamel, dark glass, polyethylene

Storage

Storage conditions	- protected from light
Validity	- 36 months, < 25 °C, in the unopened original container, see "best use before" date stated on the label
Packaging materials	- tightly closing; material: dark glass, aluminium, food-approved plastics

8. Exposure controls/Personal protection

Engineering Measures	- see 7.

Monitoring

Threshold value (DSM/Roche) air	- IOEL: 0.1 mg/m3
Analytics	- sampling on glass fibre filter and gravimetric or chemical determination

Personal protective equipment

Respiratory protection	- in case of open handling or accidental release: particle mask or respirator with independent air supply
Hand protection	- protective gloves (eg made of NR Natural Rubber, NBR Acrylnitril-Butadien-Rubber)
Eye protection	- safety glasses

9. Physical and chemical properties

Color	yellow to orange-yellow
Form	crystalline powder
Odor	almost odourless
Molecular mass	441.40 g/mol
Empirical formula	$C_{19}H_{19}N_7O_6$

Solubility	1.6 mg/l, water (25 °C) insoluble, lipophilic solvents insoluble, acetone insoluble, diethyl ether well soluble, acetic acid well soluble, pyridine well soluble, phenol well soluble, alkalis well soluble, carbonate solution
Melting temperature	250 °C (decomposition above)

10. Stability and reactivity

Stability	- solutions are not heat-resistant - protected from light, crystalline folic acid is heat-resistant
Conditions to avoid	- UV light - light
Materials to avoid	- acids, bases, reducing agents - strong oxidizing agents, metal ions

11. Toxicological information

Acute toxicity	- LD_{50}	> 10'000	mg/kg	(oral, mouse)
	- LD_{50}	> 8'000	mg/kg	(oral, rat)
	- LD_{50}	239	mg/kg	(i.v., mouse)
	- LD_{50}	500	mg/kg	(i.v., rat)
	- LD_{50}	> 85	mg/kg	(i.p., mouse)

Sensitization	- folic acid allergies are very rare (man)
Chronic toxicity	- low toxicity (human), oral intake of 15 mg/d had no side effects
Note	- dosage upon deficiency 1-5 mg daily - RDA (recommended dietary allowance): adults: 0.4 mg (Germany); 0.2 mg (USA) pregnant women: 0.8 mg (Germany); 0.4 mg (USA)

12. Ecological information

Inherent biodegradability	- well inherently biodegradable 82 %, 14 days (Zahn-Wellens test, OECD No. 302 B)
Ecotoxicity	- barely toxic for fish (nominal concentration > 100 mg/l) (rainbow trout) LC_0 > 500 mg/l (OECD No. 203) - barely toxic for planktonic crustaceans (nominal concentration > 100 mg/l) (Daphnia magna) NOEC (48 h) 100 mg/l (OECD No. 202)
Air pollution	- observe local/national regulations

13. Disposal considerations

Waste from residues	- incinerate in qualified installation with flue gas scrubbing - observe local/national regulations regarding waste disposal
RCRA waste	- not regulated under RCRA

14. Transport information

DOT/TDG Remark:	- Not regulated for transport under DOT, TDG, IATA, or IMDG.
Note	- not classified as hazardous under DOT, IATA, IMDG

15. Regulatory information

US Regulations	- Law: hazardous chemical reporting: community right-to know - Common name: SARA title 312 - Agency: Environmental Protection Agency EPA - Criteria met: acute
US and CAN hazard classification	- No components are listed in the WHMIS IDL. - This product is identified on the Canadian Domestic Substance List or the Non-Domestic Substance List. - This product is considered hazardous under the criteria specifies in 29 CFR 1910.1200 (Hazard Communication Standard) but is not a controlled product under the Canadian Controlled Products Act.

	- None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).
TSCA Status	- On TSCA inventory
Reporting Requirements	- The United States Environmental Protection Agency (USEPA) has not established a Reportable Quantity (RQ) for releases of this material. - In New Jersey, report all releases which are likely to endanger the public health, harm the environment or cause a complaint to the NJDEP Hotline (1-877-WARN-DEP) and to local officials. - Large releases of this material are unlikely to endanger the public health or harm the environment. - State and local regulations vary and may impose additional reporting requirements.

16. Other information

Canada update	- This MSDS has been reviewed on 11/16/2006 for compliance with Canadian regulation
Edition documentation	- changes from previous version in sections 2, 5, 8, 16

Definitions: ACGIH = American Conference of Governmental Industrial Hygienists. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. CFR = Code of Federal Regulations. DSL = Canadian Domestic Substance List. DOT= Department of Transportation. EINECS = European Inventory of New and Existing Chemical Substances. EPA = Environmental Protection Agency. HEPA = High Efficiency Particulate Air. HMIS = Hazardous Material Identification System. IARC = International Agency for Research on Cancer. IATA= International Air Transport Association. IMDG= International Maritime Dangerous Good. IOEL = Roche/ DSM developed Internal Occupational Exposure Limit. NFPA = National Fire Protection Association. NIOSH = National Institute of Occupational Safety and Health. NJTSR = New Jersey Trade Secret Registry. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. NA = Not available or Not Applicable. SARA = Superfund Amendments and Reauthorization Act. TLV = Threshold Limit Value. TSCA = Toxic Substance Control Act. WHMIS = Workplace Hazardous Materials Information System.