

OTTO CHEMIE PVT LTD

An ISO 9001 : 2015 & GMP Certified Company
101, Aarkay Ruby Industrial Estate (1B), Opp Shree Narayan Industrial Estate,
Chinchpada, Vasai East, Waliv, Maharashtra 401208. Tel : + 91 98200 41841
Email : info@ottokemi.com Web : www.ottokemi.com

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Product identifiers

Product Name : Folic acid, 98%
Product Code: F 1485
CAS-No.: 59-30-3

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification

OTTO CHEMIE PVT LTD

101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate,
Chinchpada, Vasai East, Waliv, Maharashtra 401208.

Email info@ottokemi.com

1.4. Emergency telephone number

Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm)

SECTION 2.Hazard identification

2.1Classification of the substance or mixture

Skin irritation, Category 2

Eye irritation, Category 2

2.2GHS label elements, including precautionary statements

Pictogram(s)

Signal word

Hazard statement(s)

Precautionary statement(s)

Prevention

Response

Storage

Disposal

2.3Other hazards which do not result in classification

none

Warning

H315 Causes skin irritation

H319 Causes serious eye irritation

P264 Wash ... thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 IF ON SKIN: Wash with plenty of water/...

P321 Specific treatment (see ... on this label).

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

none

none

SECTION 3.Composition/information on ingredients

3.1Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
folic acid	folic acid	59-30-3	none	100%

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SECTION 4. First-aid measures

4.1 Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms/effects, acute and delayed

SYMPTOMS: Symptoms of exposure to this compound include anorexia, nausea, abdominal distension, flatulence, altered sleep

and dream patterns, malaise, irritability, hypersensitivity and fever. It may also cause allergic sensitization. **ACUTE/CHRONIC**

HAZARDS: When heated to decomposition this compound emits toxic fumes of NOx.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if needed. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary ...

Monitor for shock and treat if necessary ... Anticipate seizures and treat if necessary ... For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport ... Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool ... Cover skin burns with dry sterile dressings after decontamination ... /Poison A and B/

SECTION 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher.

5.2 Specific hazards arising from the chemical

Flash point data for this chemical are not available; however, it is probably combustible.

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store below 40°C (104 deg F), preferably between 15 and 30°C (59 and 86 deg F), unless otherwise specified by manufacturer. Protect from freezing.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

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Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

SECTION 9. Physical and chemical properties

Physical state	Yellow to orange yellow crystals or crystalline powder.
Colour	Yellowish-orange crystals; extremely thin platelets (elongated @ 2 ends) from hot water
Odour	Odorless or almost odorless
Melting point/ freezing point	320\00b0C(dec.)(lit.)
Boiling point or initial boiling point and boiling range	102\00b0C/5.3mmHg
Flammability	no data available
Lower and upper explosion limit / flammability limit	no data available
Flash point	44\00b0C(lit.)
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	A suspension of 1 g of folic acid in 10 ml of water has a pH of 4.0-4.8. Aq solutions prepared with sodium bicarbonate have a pH between 6.5 and 6.8.
Kinematic viscosity	no data available
Solubility	In water: 1.6 mg/L (25 \00baC)
Partition coefficient n-octanol/water (log value)	no data available
Vapour pressure	6.2X10 ⁻²⁰ mm Hg at 25\00b0C /Estimated/
Density and/or relative density	1.68 g/cm ³
Relative vapour density	no data available
Particle characteristics	no data available

SECTION 10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Aqueous solutions of folic acid are heat sensitive and decompose rapidly in the presence of light and /or riboflavin; solutions should be protected from light.

10.3 Possibility of hazardous reactions

Acid solutions of FOLIC ACID are sensitive to heat, but towards neutrality, stability progressively increases. Solutions are inactivated by ultraviolet light and alkaline solutions are sensitive to oxidation. It is also inactivated by light. This chemical is incompatible with oxidizing agents, reducing agents and heavy metal ions.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Folic acid is incompatible with oxidizing and reducing agents and with heavy metal ions.

10.6 Hazardous decomposition products

no data available

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SECTION 11.Toxicological information

Acute toxicity
Oral: no data available
Inhalation: no data available
Dermal: no data available
Skin corrosion/irritation
no data available
Serious eye damage/irritation
no data available
Respiratory or skin sensitization
no data available
Germ cell mutagenicity
no data available
Carcinogenicity
no data available
Reproductive toxicity
no data available
STOT-single exposure
no data available
STOT-repeated exposure
no data available
Aspiration hazard
no data available

SECTION 12.Ecological information

12.1Toxicity

Toxicity to fish: no data available
Toxicity to daphnia and other aquatic invertebrates: no data available
Toxicity to algae: no data available
Toxicity to microorganisms: no data available

12.2Persistence and degradability

AEROBIC: Using a defined microbial mixture containing Enterobacter, Citrobacter, Pseudomonas, Klebsiella, Yersinia, and Serratia isolated from unsettled sewage from a primary treatment plant and a separate sewage inoculum, folic acid exhibited low biodegradation rates. BOD rates expressed in terms of O₂ mg/L were 11.5X10⁺² mg/L and 12.2X10⁺² mg/L in the microbial mixture and sewage inoculum, respectively(1). This is 20% of the theoretical degradation products that were obtained using a COD of 6.3X10⁺³ mg/L(1). These studies indicate that folic acid is slow to biodegrade.

12.3Bioaccumulative potential

An estimated BCF of 3.2 was calculated for folic acid(SRC), using a water solubility of 1.6 mg/L(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).

12.4Mobility in soil

The Koc of folic acid is estimated as 3,400(SRC), using a water solubility of 1.6 mg/L(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that folic acid is expected to have slight mobility in soil. The estimated pK_as of the carboxylic acid moieties of folic acid are 3.5 and 4.5(4), indicating that this compound will primarily exist as an anion and generally do not absorb more strongly to organic carbon and clay than their neutral species(5). However, aromatic amines are expected to bind strongly to humus or organic matter in soils due to the high reactivity of the aromatic amino group(6,7), suggesting that mobility may be much lower in some soils(SRC).

12.5Other adverse effects

no data available

SECTION 13.Disposal considerations

13.1Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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SECTION 14. Transport information

14.1 UN Number
ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.
14.2 UN Proper Shipping Name
ADR/RID: unknown
IMDG: unknown
IATA: unknown
14.3 Transport hazard class(es)
ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.
14.4 Packing group, if applicable
ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.
14.5 Environmental hazards
ADR/RID: no IMDG: no IATA: no
14.6 Special precautions for user
no data available
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
no data available

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
folic acid	folic acid	59-30-3	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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