

Material Safety Data Sheet



**9-FLUORENYLMETHYLCHLOROFORMATE
(FMOC-Cl)**

VERSION : 02
DATE OF ISSUE : 26-08-2019
SUPERSEDES : 01

Product Code : 52410

Page 1 of 10

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : 9-FLUORENYLMETHYLCHLOROFORMATE(FMOC-Cl)

Product code : 52410

Identification of the product : 9-FLUORENYLMETHYLCHLOROFORMATE (FMOC-Cl)

CAS No : 28920-43-6

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 : MOLYCHEM

Office: 78/80 Babu Genu Road, Souri Bldg., 2nd Floor, Mumbai – 400 002 (INDIA) Tel: +91 22 4066 8111, 2205 7772 . Fax: + 91 22 2203 4442.

Email : info@molychem.net

Works: Plot No. B/9, Badlapur M.I.D.C., OPP.Shobhavat Textile Co., Kulgaon, Badlapur (E), Dist.-Thane-421 503.

1.4. Emergency telephone number

Emergency number : +91 22 4066 8111 (10:00am - 6:00 pm).

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, H314

Category 1B

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

Labelling according to Regulation (EC) No. 1272/2008 [CLP] Extra labelling to display

Extra classification(s) to display

Symbol(s) : C: Corrosive

T : Very toxic



R Phrase(s) : R34: Cause burns.

R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.

MOLYCHEM Office: 78/80 Babu Genu Road, Souri Bldg., 2nd Floor, Mumbai – 400 002 (INDIA)

Tel: +91 22 4066 8111, 2205 7772 . **Fax:** + 91 22 2203 4442. **Email :** info@molychem.net

Works: Plot No. B/9, Badlapur M.I.D.C., OPP.Shobhavat Textile Co., Kulgaon, Badlapur (E), Dist.-Thane-421 503

Material Safety Data Sheet



**9-FLUORENYLMETHYLCHLOROFORMATE
(Fmoc-Cl)**

VERSION : 02
DATE OF ISSUE : 26-08-2019
SUPERSEDES : 01

Product Code :52410

Page 2 of 10

S Phrase(s) : S26: In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S36/37/39 : Wear suitable protective clothing and gloves & eye/face protecting.

Hazard pictograms



Signal word : Danger

Hazard statements : H314 - Causes severe skin burns and eye damage

Precautionary statements: P280 - Wear protective gloves/protective clothing/eye protection/face protection

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER/doctor/...

2.3. Other hazards

No additional information available

3. Composition/information on ingredients

3.1. Substance- Fmoc CHLORIDE FOR SYNTHESIS

CAS No. 28920-43-6

Substance.

Contains no other components or impurities which will influence the classification of the product.

4. First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Assure fresh air breathing. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

First-aid measures after skin contact : Gently wash with plenty of soap and water. Get immediate medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Causes severe skin burns and eye damage.

MOLYCHEM Office: 78/80 Babu Genu Road, Souri Bldg., 2nd Floor, Mumbai – 400 002 (INDIA)

Tel: +91 22 4066 8111, 2205 7772 . Fax: + 91 22 2203 4442. Email : info@molychem.net

**Works: Plot No. B/9, Badlapur M.I.D.C., OPP.Shobhavat Textile Co.,
Kulgaon, Badlapur (E), Dist.-Thane-421 503**

Material Safety Data Sheet



**9-FLUORENYLMETHYLCHLOROFORMATE
(Fmoc-Cl)**

VERSION : 02
DATE OF ISSUE : 26-08-2019
SUPERSEDES : 01

Product Code :52410

Page 3 of 10

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Water spray. Foam.

Unsuitable extinguishing media : Do not use extinguishing media containing water.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.

Emergency procedures : Stop release.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

6.4. Reference to other sections

No additional information available

7. Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Do not breathe vapours.

Provide good ventilation

in process area to prevent formation of vapour.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep container tightly closed.

7.3. Specific end use(s)

No additional information available

MOLYCHEM Office: 78/80 Babu Genu Road, Souri Bldg., 2nd Floor, Mumbai – 400 002 (INDIA)

Tel: +91 22 4066 8111, 2205 7772 . Fax: + 91 22 2203 4442. Email : info@molychem.net

**Works: Plot No. B/9, Badlapur M.I.D.C.,OPP.Shobhavat Textile Co.,
Kulgaon, Badlapur (E), Dist.-Thane-421 503**

Material Safety Data Sheet



**9-FLUORENYLMETHYLCHLOROFORMATE
(Fmoc-Cl)**

VERSION : 02
DATE OF ISSUE : 26-08-2019
SUPERSEDES : 01

Product Code :52410

Page 4 of 10

8. Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Hand protection : Protective gloves

Eye protection : Chemical goggles or safety glasses

Skin and body protection : Wear suitable protective clothing

Respiratory protection : Wear respiratory protection

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Odour threshold : No data available

pH : No data available

Relative evaporation rate (butylacetate=1) : No data available

Melting point : 62 - 64 °C

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapour pressure : No data available

Relative vapour density at 20 °C : No data available

Relative density : No data available

Solubility : No data available

Log Pow : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

Explosive properties : No data available

Oxidising properties : No data available

Explosive limits : No data available

9.2. Other information

No additional information available

10. Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

MOLYCHEM Office: 78/80 Babu Genu Road, Souri Bldg., 2nd Floor, Mumbai – 400 002 (INDIA)

Tel: +91 22 4066 8111, 2205 7772 . Fax: + 91 22 2203 4442. Email : info@molychem.net

Works: Plot No. B/9, Badlapur M.I.D.C., OPP.Shobhavat Textile Co.,
Kulgaon, Badlapur (E), Dist.-Thane-421 503

Material Safety Data Sheet



**9-FLUORENYLMETHYLCHLOROFORMATE
(Fmoc-Cl)**

VERSION : 02
DATE OF ISSUE : 26-08-2019
SUPERSEDES : 01

Product Code :52410

Page 5 of 10

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Direct sunlight.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Serious eye damage, category 1, implicit

Respiratory or skin sensitisation : 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

12. Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

13. Disposal considerations

13.1. Waste treatment methods

No additional information available

MOLYCHEM Office: 78/80 Babu Genu Road, Souri Bldg., 2nd Floor, Mumbai – 400 002 (INDIA)

Tel: +91 22 4066 8111, 2205 7772 . Fax: + 91 22 2203 4442. Email : info@molychem.net

Works: Plot No. B/9, Badlapur M.I.D.C., OPP.Shobhavat Textile Co.,
Kulgaon, Badlapur (E), Dist.-Thane-421 503

Material Safety Data Sheet



**9-FLUORENYLMETHYLCHLOROFORMATE
(Fmoc-Cl)**

VERSION : 02
DATE OF ISSUE : 26-08-2019
SUPERSEDES : 01

Product Code :52410

Page 6 of 10

14. Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : 3261

UN-No. (IMDG) : 3261

UN-No.(IATA) : 3261

UN-No.(ADN) : 3261

UN-No. (RID) : 3261

14.2. UN proper shipping name

Proper Shipping Name (ADR) : CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.

Proper Shipping Name (IMDG) : CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.

Proper Shipping Name (IATA) : CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.

Proper Shipping Name (ADN) : CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.

Proper Shipping Name (RID) : CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.

Transport document description (ADR) : UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S., 8, II, (E)

Transport document description (IMDG) : UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S., 8, II

Transport document description (IATA) : UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S., 8, II

Transport document description (ADN) : UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S., 8, II

Transport document description (RID) : UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S., 8, II

14.3. Transport hazard class(es)

ADR- Transport hazard class(es) (ADR) : 8

Danger labels (ADR) : 8

IMDG- Transport hazard class(es) (IMDG) : 8

Danger labels (IMDG) : 8

IATA- Transport hazard class(es) (IATA) : 8

Hazard labels (IATA) : 8

ADN- Transport hazard class(es) (ADN) : 8

Danger labels (ADN) : 8

RID- Transport hazard class(es) (RID) : 8

Danger labels (RID) : 8

14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

MOLYCHEM Office: 78/80 Babu Genu Road, Souri Bldg., 2nd Floor, Mumbai – 400 002 (INDIA)

Tel: +91 22 4066 8111, 2205 7772 . **Fax:** + 91 22 2203 4442. **Email :** info@molychem.net

Works: Plot No. B/9, Badlapur M.I.D.C.,OPP.Shobhavat Textile Co.,
Kulgaon, Badlapur (E), Dist.-Thane-421 503

Material Safety Data Sheet



**9-FLUORENYLMETHYLCHLOROFORMATE
(Fmoc-Cl)**

VERSION : 02
DATE OF ISSUE : 26-08-2019
SUPERSEDES : 01

Product Code :52410

Page 7 of 10

Packing group (ADN) : II

Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport- Classification code (ADR) : C4

Special provision (ADR) : 274

Limited quantities (ADR) : 1kg

Excepted quantities (ADR) : E2

Packing instructions (ADR) : P002, IBC08

Special packing provisions (ADR) : B4

Mixed packing provisions (ADR) : MP10

Portable tank and bulk container instructions (ADR) : T3

Portable tank and bulk container special provisions (ADR) : TP33

Tank code (ADR) : SGAN, L4BN

Vehicle for tank carriage : AT

Transport category (ADR) : 2

Special provisions for carriage – Packages (ADR) : V11

Hazard identification number (Kemler No.) : 80

Orange plates :

Tunnel restriction code (ADR) : E

EAC code : 2X

Transport by sea- Special provision (IMDG) : 274

Limited quantities (IMDG) : 1 kg

Excepted quantities (IMDG) : E2

Packing instructions (IMDG) : P002

IBC packing instructions (IMDG) : IBC08

IBC special provisions (IMDG) : B2, B4

Tank instructions (IMDG) : T3

Tank special provisions (IMDG) : TP33

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-B

Stowage category (IMDG) : B

Air transport- PCA Excepted quantities (IATA) : E2

PCA Limited quantities (IATA) : Y844

PCA limited quantity max net quantity (IATA) : 5kg

PCA packing instructions (IATA) : 859

MOLYCHEM Office: 78/80 Babu Genu Road, Souri Bldg., 2nd Floor, Mumbai – 400 002 (INDIA)

Tel: +91 22 4066 8111, 2205 7772 . **Fax:** + 91 22 2203 4442. **Email :** info@molychem.net

Works: Plot No. B/9, Badlapur M.I.D.C., OPP.Shobhavat Textile Co.,
Kulgaon, Badlapur (E), Dist.-Thane-421 503

Material Safety Data Sheet



**9-FLUORENYLMETHYLCHLOROFORMATE
(Fmoc-Cl)**

VERSION : 02
DATE OF ISSUE : 26-08-2019
SUPERSEDES : 01

Product Code :52410

Page 8 of 10

PCA max net quantity (IATA) : 15kg
CAO packing instructions (IATA) : 863
CAO max net quantity (IATA) : 50kg
Special provision (IATA) : A3
ERG code (IATA) : 8L

Inland waterway transport- Classification code (ADN) : C4

Special provisions (ADN) : 274
Limited quantities (ADN) : 1 kg
Excepted quantities (ADN) : E2
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

Rail transport- Classification code (RID) : C4

Special provision (RID) : 274
Limited quantities (RID) : 1kg
Excepted quantities (RID) : E2
Packing instructions (RID) : P002, IBC08
Special packing provisions (RID) : B4
Mixed packing provisions (RID) : MP10
Portable tank and bulk container instructions (RID) : T3
Portable tank and bulk container special provisions (RID) : TP33
Tank codes for RID tanks (RID) : SGAN, L4BN
Transport category (RID) : 2
Special provisions for carriage – Packages (RID) : W11
Colis express (express parcels) (RID) : CE10
Hazard identification number (RID) : 80

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Fmoc CHLORIDE FOR SYNTHESIS is not on the REACH Candidate List

Fmoc CHLORIDE FOR SYNTHESIS is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

12th Ordinance Implementing the Federal

MOLYCHEM Office: 78/80 Babu Genu Road, Souri Bldg., 2nd Floor, Mumbai – 400 002 (INDIA)

Tel: +91 22 4066 8111, 2205 7772 . Fax: + 91 22 2203 4442. Email : info@molychem.net

**Works: Plot No. B/9, Badlapur M.I.D.C.,OPP.Shobhavat Textile Co.,
Kulgaon, Badlapur (E), Dist.-Thane-421 503**

Material Safety Data Sheet



**9-FLUORENYLMETHYLCHLOROFORMATE
(FMOC-Cl)**

VERSION : 02
DATE OF ISSUE : 26-08-2019
SUPERSEDES : 01

Product Code :52410

Page 9 of 10

Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

16. Other information

Abbreviations and acronyms : PBT: persistent, bioaccumulative and toxic.

vPvB: very persistent and very bioaccumulative

Sources of key data used : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

Further information : None.

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008 **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

End of document

Prepared by: MOLYCHEM (INDIA)

For questions contact: MOLYCHEM

Office: 78/80 Babu Genu Road, Souri Bldg., 2nd Floor, Mumbai – 400 002 (INDIA)

Tel: +91 22 4066 8111, 2205 7772 . Fax: + 91 22 2203 4442.

Email : info@molychem.net

Works: Plot No. B/9, Badlapur M.I.D.C., OPP.Shobhavat Textile Co.,

Kulgaon, Badlapur (E), Dist.-Thane-421 503

(The statements contained herein are offered for informational purposes only and are based upon technical data that MOLYCHEM believes to be accurate. It is intended for use only by persons having the necessary technical skills and at their own discretion and

MOLYCHEM Office: 78/80 Babu Genu Road, Souri Bldg., 2nd Floor, Mumbai – 400 002 (INDIA)

Tel: +91 22 4066 8111, 2205 7772 . Fax: + 91 22 2203 4442. Email : info@molychem.net

**Works: Plot No. B/9, Badlapur M.I.D.C., OPP.Shobhavat Textile Co.,
Kulgaon, Badlapur (E), Dist.-Thane-421 503**

Material Safety Data Sheet	
9-FLUORENYLMETHYLCHLOROFORMATE (FMOC-Cl)	VERSION : 02 DATE OF ISSUE : 26-08-2019 SUPERSEDES : 01
Product Code :52410	Page 10 of 10

risk. Since conditions and manner of use are outside our control, we make NO WARRANTY, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE.)