

Chemical Safety Data Sheet MSDS / SDS

4,5-DIAMINOFLUORESCEIN DIACETATE

Revision Date:2026-07-18 Revision Number:1

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

Product name : 4,5-DIAMINOFLUORESCEIN DIACETATE
CBnumber : CB3480218
CAS : 205391-02-2
Synonyms : DAF-2 DA,4,5-Diaminofluorescein Diacetate

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification**GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Warning

Precautionary statements

P501 Dispose of contents/container to.....

P405 Store locked up.

P403+P235 Store in a well-ventilated place. Keep cool.

P370+P378 In case of fire: Use ... for extinction.

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

P332+P313 IF SKIN irritation occurs: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

P308+P313 IF exposed or concerned: Get medical advice/attention.

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

Continuerinsing.

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

P302+P352 IF ON SKIN: wash with plenty of soap and water.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P270 Do not eat, drink or smoke when using this product.
P264 Wash skin thoroughly after handling.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P202 Do not handle until all safety precautions have been read and understood.
P201 Obtain special instructions before use.

Hazard statements

H373 May cause damage to organs through prolonged or repeated exposure
H335 May cause respiratory irritation
H371 May cause damage to organs
H351 Suspected of causing cancer
H319 Causes serious eye irritation
H315 Causes skin irritation
H227 Combustible liquid

SECTION 3: Composition/information on ingredients

Substance

Product name	: 4,5-DIAMINOFLUORESC EIN DIACETATE
Synonyms	: DAF-2 DA,4,5-Diaminofluorescein Diacetate
CAS	: 205391-02-2
MF	: C ₂₄ H ₁₈ N ₂ O ₇
MW	: 446.41

SECTION 4: First aid measures

Description of first aid measures

After inhalation

Supply fresh air; consult doctor in case of complaints.

After skin contact

Generally the product does not irritate the skin.

After eye contact

Rinse opened eye for several minutes under running water.

After swallowing

If symptoms persist consult doctor.

Most important symptoms and effects, both acute and delayed

Indication of any immediate medical attention and special treatment needed

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing agents

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

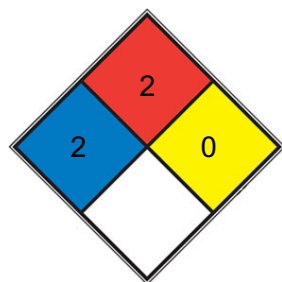
No further relevant information available.

Advice for firefighters

Protective equipment

No special measures required.

NFPA 704



HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

FIRE 2 Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur and multiple finely divided suspended solids that do not require heating before ignition can occur. Flash point between 37.8 and 93.3 °C (100 and 200 °F). (e.g. diesel fuel, [sulfur](#))

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N₂](#))

SPEC.
HAZ.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Not required.

Environmental precautions

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 13.

Protective Action Criteria for Chemicals

PAC-1

67-68-5 Dimethyl sulfoxide 150 ppm

PAC-2

67-68-5 Dimethyl sulfoxide 290 ppm

PAC-3

67-68-5 Dimethyl sulfoxide 1,800 ppm

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

Precautions for safe handling

No special precautions are necessary if used correctly.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid prolonged or repeated exposure.

Keep away from sources of ignition.

Take precautionary measures against static discharge.re.

Information about protection against explosions and fires

No special measures required.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

Store in accordance with information listed on the product insert.

Storage

Store in accordance with information listed on the product insert.

Requirements to be met by storerooms and receptacles

No special requirements.

Information about storage in one common storage facility

Not required.

Further information about storage conditions

None.

Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

WEEL Long-term value

250 ppm

Additional information

The lists that were valid during the creation were used as basis.

Exposure controls

Appropriate engineering controls

No further data; see section 7.

Personal protective equipment

General protective and hygienic measures

Wash hands before breaks and at the end of work.

Breathing equipment

Not required.

Protection of hands

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection

Goggles recommended during refilling.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Physical State

Liquid

Color

Colorless

Odor

Odorless

Structural Formula

C₂₄H₁₈N₂O₇

Molecular Weight

446.4 g/mol

Storage Buffer

Odor Threshold

Not determined.

Formulation

A solution in DMSO

Melting point/Melting range

18.5 °C (65.3 °F)

Boiling point/Boiling range

189 °C (372.2 °F)

Flammability

Not applicable.

Explosion limits

Lower: 2.6 Vol %

Upper: 42 Vol %

Flash point

87 °C (188.6 °F)

Auto igniting

270 °C (518 °F)

Decomposition temperature

Not determined.

pH

Not determined.

Viscosity**Kinematic**

Not determined.

SOLUBILITY

DMSO: <2mg/mL

Dynamic

at 20 °C (68 °F): 198 mPas

Solubility in / Miscibility with

DMSO: <2mg/mL

Water at 25 °C (77 °F)

1000 g/l

Partition coefficient (n-octanol/water)

Not determined.

Vapor Pressure at 20 °C (68 °F)

0.56 hPa (0.4 mm Hg)

Density at 20 °C (68 °F)

1.1 g/cm³ (9.1795 lbs/gal)

Relative Density

1.54±0.1 g/cm³(Predicted)

Vapor Density

Not determined.

Particle characteristics

Not applicable.

Other information**Appearance****Form**

Liquid

Important information on protection of health and environment, and on safety.

Ignition temperature

Product is not selfigniting.

Danger of explosion

Not determined.

Organic solvents

100.0 %

VOC content

99.95 % 999.5 g/l / 8.34 lb/gal

Solids content

0.1 %

Change in condition

Evaporation Rate

Not determined.

SECTION 10: Stability and reactivity

Reactivity

No further relevant information available.

Chemical stability

Thermal decomposition / conditions to be avoided

No decomposition if used according to specifications.

Possibility of hazardous reactions

No dangerous reactions known.

Conditions to avoid

No further relevant information available.

Incompatible materials

Hazardous decomposition products

carbon oxides, sulfur oxides

SECTION 11: Toxicological information

Information on toxicological effects

Primary irritant effect

on the skin

No irritant effect.

on the eye

No irritating effect.

Sensitization

No sensitizing effects known.

Additional toxicological information

Interactive effects

No interactive effects between components are known.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

Alternative sources for toxicological information

No non-standard sources for toxicological information where used.

SECTION 12: Ecological information

Toxicity

Aquatic toxicity

No further relevant information available.

Persistence and degradability

No further relevant information available.

Bioaccumulative potential

No further relevant information available.

Mobility in soil

No further relevant information available.

Results of PBT and vPvB assessment

PBT

Not applicable.

vPvB

Not applicable.

PBT:

Not applicable.

vPvB:

Not applicable.

Other adverse effects

Additional ecological information

General notes

Water hazard class 1 (Self-assessment) slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

Waste treatment methods

Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings

Recommendation

Disposal must be made according to official regulations.

Recommended cleansing agent

Water, if necessary with cleansing agents.

SECTION 14: Transport information

UN-Number

DOT NA1993

IMDG, IATA not regulated

UN proper shipping name

DOT COMBUSTIBLE LIQUID, N.O.S

IMDG, IATA not regulated

DOT

NA1993

IMDG, IATA

not regulated

Transport hazard class(es)**DOT**

Class: 3 Combustible liquids

Label: 3

Packing group

DOT III

IMDG, IATA not regulated

Label

3

Environmental hazards

Not applicable.

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information**DOT:****Quantity limitations**

On passenger aircraft/rail: 60 L

On cargo aircraft only: 220 L

IATA:**Remarks**

When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

Special precautions for user

Not applicable.

UN "Model Regulation"

not regulated

SECTION 15: Regulatory information

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

No further relevant information available.

Sara

Section 355 (extremely hazardous substances):	None of the ingredients is listed.
Section 313 (Specific toxic chemical listings):	None of the ingredients is listed.
TSCA (Toxic Substances Control Act):	67-68-5 Dimethyl sulfoxide ACTIVE
Hazardous Air Pollutants:	None of the ingredients is listed.
Chemicals known to cause cancer:	None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for females:	None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for males:	None of the ingredients is listed.
Chemicals known to cause developmental toxicity:	None of the ingredients is listed.

Carcinogenic categories

EPA (Environmental Protection Agency):	None of the ingredients is listed.
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TLV (Threshold Limit Value)

None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Abbreviations and acronyms

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flammable liquids 4: Flammable liquids – Category 4

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.