

# MATERIAL SAFETY DATA SHEET

## 2-Nitrofluorene (PPC-NF00)

Version 1.5 Page 1/1

Processing date February 2015

### 1. NOTE

**Positive Controls contain mutagenic chemicals in small quantities. Handle in accordance with NIH guidelines for the safe handling of chemical carcinogens. Wear approved gloves. Do not mouth pipette. Dispose of waste in accordance with your institutional requirements.**

**The following pages contain the MSDS provided by the producer of the positive control chemicals.**

### 2. ORDER NUMBER AND CONTENTS

Order Number	Chemical	CAS#	Amount per vial
PPC-NF00	2-Nitrofluorene	607-57-8	20 µg

**The same positive control chemical can also be part of a complete AMES MPF™ mutagenicity assay kit which is sold under a different Order Number.**

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.1 Revision Date 10.10.2012

Print Date 28.01.2015

GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifiers

Product name : 2-Nitrofluorene

Product Number : N16754

Brand : Aldrich

CAS-No. : 607-57-8

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

Identified uses : Laboratory chemicals, Manufacture of substances

#### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Chemie GmbH  
Industriestrasse 25  
CH-9471 BUCHS

Telephone : +41 81-755-2511

Fax : +41 81-756-5449

E-mail address : [eurtechserv@sial.com](mailto:eurtechserv@sial.com)

#### 1.4 Emergency telephone number

Emergency Phone # : +41 81-755-2255  
145(CH)  
+41 44-251-5151 (Tox-Zentrum)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Carcinogenicity (Category 2)

Chronic aquatic toxicity (Category 2)

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Limited evidence of a carcinogenic effect. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### 2.2 Label elements

**Labelling according Regulation (EC) No 1272/2008 [CLP]**

Pictogram



Signal word : Warning

Hazard statement(s)

H351

Suspected of causing cancer.

H411

Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P273

Avoid release to the environment.

P281

Use personal protective equipment as required.

Supplemental Hazard Statements

none

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)



R-phrase(s)

R40

Limited evidence of a carcinogenic effect.

R51/53

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S36/37

Wear suitable protective clothing and gloves.

S61

Avoid release to the environment. Refer to special instructions/ Safety data sheets.

## 2.3 Other hazards - none

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Formula :  $C_{13}H_9NO_2$

Molecular Weight : 211,22 g/mol

Component	Concentration
<b>2-Nitrofluorene</b>	
CAS-No.	607-57-8
EC-No.	210-138-5
	-

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## 4. FIRST AID MEASURES

### 4.1 Description of 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

Flush eyes with water as a precaution.

#### If swallowed

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

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

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

no data available

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## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NOx)

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

no data available

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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

### 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 without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Light sensitive.

### 7.3 Specific end uses

no data available

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

**Components with workplace control parameters**

### 8.2 Exposure controls

#### Appropriate engineering controls

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

#### Personal protective equipment

##### Eye/face protection

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

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.

##### Body Protection

impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: solid Colour: light yellow
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	Melting point/range: 156 - 158 °C - lit.
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	log Pow: 3,83
p) Autoignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties	no data available
t) Oxidizing properties	no data available

### 9.2 Other safety information

no data available

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Strong bases

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

no data available

LD50 Intraperitoneal - mouse - 1.600 mg/kg

#### Skin corrosion/irritation

no data available

#### Serious eye damage/eye irritation

no data available

#### Respiratory or skin sensitization

no data available

#### Germ cell mutagenicity

Genotoxicity in vitro - rat - Liver

Unscheduled DNA synthesis

Genotoxicity in vitro - rat - S. typhimurium

Host-mediated assay

Genotoxicity in vitro - mouse - lymphocyte

DNA damage

Genotoxicity in vitro - mouse - Liver

Unscheduled DNA synthesis

Genotoxicity in vitro - mouse - fibroblast

Micronucleus test

Genotoxicity in vitro - mouse - lymphocyte

Mutation in mammalian somatic cells.

Genotoxicity in vitro - Hamster - Lungs

Cytogenetic analysis

Genotoxicity in vitro - Hamster - Embryo

Morphological transformation.

Genotoxicity in vitro - Hamster - ovary

Sister chromatid exchange

Genotoxicity in vitro - Ames test - positive

Genotoxicity in vitro - Human - HeLa cell

DNA inhibition

Genotoxicity in vivo - rat - Oral

DNA damage

Genotoxicity in vivo - rat - Oral

Unscheduled DNA synthesis

Genotoxicity in vivo - Hamster - Oral

Sister chromatid exchange

Genotoxicity in vivo - rat - Intraperitoneal

Morphological transformation.

#### Carcinogenicity

Carcinogenicity - rat - Oral

Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Liver:Tumors.

Carcinogenicity - rat - Skin

Tumorigenic:Neoplastic by RTECS criteria. Lungs, Thorax, or Respiration:Tumors. Endocrine:Tumors.

Limited evidence of carcinogenicity in animal studies

IARC: 2B - Group 2B: Possibly carcinogenic to humans (2-Nitrofluorene)

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.

**Additional Information**

RTECS: LL8225000

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**12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

no data available

**12.2 Persistence and degradability**

no data available

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

no data available

**12.6 Other adverse effects**

Toxic to aquatic life with long lasting effects.

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**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION**

**14.1 UN number**

ADR/RID: 3077

IMDG: 3077

IATA: 3077

**14.2 UN proper shipping name**

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-Nitrofluorene)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-Nitrofluorene)

IATA: Environmentally hazardous substance, solid, n.o.s. (2-Nitrofluorene)

**14.3 Transport hazard class(es)**

ADR/RID: 9

IMDG: 9

IATA: 9

**14.4 Packaging group**

ADR/RID: III

IMDG: III

IATA: III

**14.5 Environmental hazards**

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: yes

**14.6 Special precautions for user****Further information**

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

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**15. REGULATORY INFORMATION**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

**15.2 Chemical Safety Assessment**

no data available

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**16. OTHER INFORMATION****Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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