

**MATERIAL SAFETY DATA SHEET**

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) &amp; 2015/830

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1. PRODUCT IDENTIFIERS**

PRODUCT NAME	DBFCz2-Ph
CHEMICAL NAME	9-(2-(dibenzo[b,d]furan-2-yl)phenyl)-9H-3,9'-bicarbazole
CAS no.	n/a
EC no.	n/a
INDEX no.	n/a
REACH REGISTRATION no.	not applicable

**1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST**

IDENTIFIED USES	These chemicals are intended solely for use in laboratory experiments or research and development. They are not suitable for either drug or household use.
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**1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET**

COMPANY IDENTIFICATION	Noctiluca S.A.
ADDRESS OF SUPPLIER	Noctiluca S.A. Jurija Gagarina 7/41B 87-100 TORUN POLAND
TELEPHONE	+48 573 821 838
E-MAIL	sales@noctiluca.eu
OFFICE HOURS	8:00 – 16:00 (Warsaw time)

**1.4. EMERGENCY TELEPHONE NUMBER**

EUROPE	112 or 999
ASIA	110 (China, Japan, Taiwan), 119
NORTH AMERICA	911
SOUTH AMERICA	911
AFRICA	As appropriate for your country
AUSTRALIA	000 (Australia), 111 (New Zealand)

**SECTION 2: HAZARDS IDENTIFICATION****2.1. CLASSIFICATION OF THE SUBSTANCE/MIXTURE**

Regulation (EC) No. 1272/2008 (CLP)      Not classified as hazardous substance or mixture.

**2.2. LABEL ELEMENTS**

According to Regulation (EC) No. 1272/2008 (CLP)

PRODUCT NAME	DBFCz2-Ph
HAZARD PICTOGRAMS	The product does not need to be labelled in accordance with EC directives or respective national laws.

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SIGNAL WORDS -  
HAZARD STATEMENTS -  
PRECAUTIONARY STATEMENTS -

### 2.3. OTHER HAZARDS

This substance/mixture does not include any components that are deemed to be persistent, bioaccumulative, and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at concentrations of 0.1% or more. This safety data sheet contains additional precautionary statements in other sections.

### 2.4. ADDITIONAL INFORMATION

not applicable

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. SUBSTANCES

CHEMICAL NAME	<b>9-(2-(dibenzo[b,d]furan-2-yl)phenyl)-9H-3,9'-bicarbazole</b>
SYNONYMS	n/a
CHEMICAL FORMULA	<b>C<sub>42</sub>H<sub>26</sub>N<sub>2</sub>O</b>
MOLECULAR WEIGHT	574.68 g/mol

### 3.2. MIXTURES

not applicable

## SECTION 4: FIRST AID MEASURES

### 4.1. DESCRIPTION OF FIRST AID MEASURES

GENERAL ADVICE	Seek medical advice and display this safety data sheet to the attending doctor. Leave the hazardous area immediately. First aid personnel should make sure that they have taken the necessary precautions to prevent exposure (refer to Section 8 for suggested personal protective equipment).
INHALATION	Take the individual to an area with clean air and ensure they are comfortable for breathing. Seek medical attention if any discomfort or illness is experienced.
SKIN CONTACT	Remove contaminated clothing and shoes. Cleanse affected areas with water and soap. Take the affected person to the hospital right away and seek medical advice. Rinse the skin with water, and if any irritation is noticed, seek medical advice or attention.
EYE CONTACT	Carefully rinse with water for several minutes. If contact lenses are being worn, remove them if it's easy to do so, and continue flushing. Rinse the affected area with abundant water for at least 15 minutes and seek medical advice.
INGESTION	Wash mouth with water. If you experience any discomfort or illness, seek medical attention. Do not induce vomiting and refrain from giving anything by mouth to an unconscious person.

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### 4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

The most important known symptoms and impacts are outlined in the labelling (see section 2.2) and/or in section 11.

### 4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

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### 5.1. EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA

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

UNSUITABLE EXTINGUISHING MEDIA

no data

### 5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

In combustion toxic fumes may form.

Carbon oxides

Nitrogen oxides (NO<sub>x</sub>)

### 5.3. ADVICE FOR FIREFIGHTERS

Firefighters should wear complete protective clothing including self-contained breathing apparatus.

### 5.4. FURTHER INFORMATION

n/a

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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### 6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Abide by the safe handling guidance and use the suggested personal protective equipment (section 8). Ensure there is sufficient ventilation, wear respiratory protection, and avoid producing dust. Stay clear of inhaling gas, mist, or vapors. Make sure that there is adequate ventilation and evacuate individuals to a secure location. Do not undertake any action without proper protective gear. Section 8 provides guidelines for personal protection.

### 6.2. ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment.

### 6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Clean up the spilled material by sweeping, but try to avoid generating dust. Where feasible, use vacuum equipment to collect the spilt substance. Dispose of the contents based on the local, state, or national laws.

### 6.4. REFERENCE TO OTHER SECTIONS

For disposal see section 13.

## SECTION 7: HANDLING AND STORAGE

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### 7.1. PRECAUTIONS FOR SAFE HANDLING

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### ADVICE ON SAFE HANDLING

Avoid breathing, swallowing, and making contact with the skin and eyes. Only use the substance in a places with good ventilation. Put on protective clothing as advised in section 8.

### HYGIENE MEASURES

Keep away from food and drink. Wash hands after handling, before breaks, and at the end of workday.

### FIRE PROTECTION

Normal measures for preventive fire protection.

## 7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

### GENERAL

Keep container tightly closed in a dry and well-ventilated area. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

### STORAGE TEMPERATURE

Ambient

### STORAGE LIFE

Stable under normal conditions.

### INCOMPATIBLE MATERIALS

Not known

### STORAGE CLASS

TRGS 510: 13: Non Combustible Solids

## 7.3. SPECIFIC END USE(S)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. CONTROL PARAMETERS

#### 8.1.1. OCCUPATIONAL EXPOSURE LIMITS

No Occupational Exposure Limit assigned.

### 8.2. EXPOSURE CONTROLS

#### 8.2.1. APPROPRIATE ENGINEERING CONTROLS

Make certain that there is sufficient ventilation and/or exhaust. Ensure that there is a washing facility with water available for the purpose of cleansing the eyes and skin.

#### 8.2.2. PERSONAL PROTECTION EQUIPMENT

##### EYE/FACE PROTECTION

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### HAND PROTECTION

Use gloves. Before using gloves, inspect them carefully. Use an appropriate technique to remove the gloves, ensuring that the outer surface of the gloves is not touched to avoid coming into contact with the substance. After use, dispose of contaminated gloves according to the appropriate regulations and good laboratory practices. Wash and dry hands after removing gloves. The gloves selected must meet the specifications of Regulation (EU) 2016/425 and the standard EN 374.

##### BODY PROTECTION

Select appropriate body protection depending on the type, concentration, and quantity of hazardous

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RESPIRATORY PROTECTION

substances present and the particular workplace conditions.

Under normal circumstances, there is no need for personal respiratory protection.

THERMAL HAZARDS

Not known

### 8.2.3. ENVIRONMENTAL EXPOSURE CONTROLS

Avoid release to the environment.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	solid
COLOUR	white
ODOUR	odorless
ODOUR THRESHOLD	n/a
MELTING POINT/FREEZING POINT	n/a
INITIAL BOILING POINT AND BOILING RANGE	n/a
FLAMMABILITY	n/a
LOWER AND UPPER EXPLOSION LIMIT	n/a
FLASH POINT	n/a
AUTO-IGNITION TEMPERATURE (°C)	n/a
DECOMPOSITION TEMPERATURE	n/a
pH	n/a
KINEMATIC VISCOSITY	n/a
SOLUBILITY(IES)	water: not known other: toluene (soluble), dichloromethane (soluble), chloroform (soluble), DMSO (soluble), methanol (insoluble), hexane (insoluble)
PARTITION COEFFICIENT: N-OCTANOL/WATER (LOG VALUE)	n/a
VAPOUR PRESSURE	< 0,0001 hPa at 20 °C
DENSITY	n/a
RELATIVE DENSITY	n/a
RELATIVE VAPOUR DENSITY	n/a
PARTICLE CHARACTERISTICS	n/a

### 9.2. OTHER INFORMATION

n/a

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. REACTIVITY

None anticipated

### 10.2. CHEMICAL STABILITY

The product is chemically stable under recommended storage conditions.

### 10.3. POSSIBILITY OF HAZARDOUS REACTIONS

n/a

### 10.4. CONDITIONS TO AVOID

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n/a

### 10.5. INCOMPATIBLE MATERIALS

Strong oxidizing agents

### 10.6. HAZARDOUS DECOMPOSITION PRODUCTS

In case of fire: see SECTION 5.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

#### ACUTE TOXICITY - INGESTION

LD50 Oral - Rat - male and female - > 2.000 mg/kg  
(OECD Test Guideline 401)

#### ACUTE TOXICITY – SKIN CONTACT

LD50 Dermal - Rat - male - > 5.000 mg/kg  
(OECD Test Guideline 402)

#### ACUTE TOXICITY - INHALATION SKIN CORROSION/IRRITATION

n/a  
Skin – Rabbit  
Result: No skin irritation - 4 h  
(OECD Test Guideline 404)

#### SERIOUS EYE DAMAGE/IRRITATION

Eyes - Rabbit  
Result: No eye irritation - 24 h  
(OECD Test Guideline 405)

#### SKIN SENSITIZATION DATA

Maximization Test - Guinea pig  
Result: Does not cause skin sensitization.  
(OECD Test Guideline 406)

#### RESPIRATORY SENSITIZATION DATA GERM CELL MUTAGENICITY

n/a  
Test Type: Hamster  
Test system: fibroblast  
Metabolic activation: with and without metabolic activation  
Result: negative  
Test Type: Ames test  
Test system: S. typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
Species: Mouse  
Application Route: Intraperitoneal  
Result: negative  
Remarks: Mutation in mammalian somatic cells.

#### CARCINOGENICITY REPRODUCTIVE TOXICITY LACTATION STOT – SINGLE EXPOSURE STOT – REPEATED EXPOSURE ASPIRATION HAZARD

n/a  
n/a  
n/a  
n/a  
n/a  
n/a

### 11.2. INFORMATION ON OTHER HAZARDS

Repeated dose toxicity - Rat - male and female - Oral - NOAEL (No observed adverse effect level) - 1.000 mg/kg  
RTECS: GL8510000

#### 11.2.1. ENDOCRINE DISRUPTING PROPERTIES

n/a

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**11.2.2. INFORMATION ON OTHER HAZARDS**

n/a

**SECTION 12: ECOLOGICAL INFORMATION**

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**12.1. TOXICITY**

TOXICITY – AQUATIC INVERTEBRATES

Immobilization EC50 - Daphnia magna (Water flea) -  
> 500 mg/l - 48 h (Directive 67/548/EEC, Annex V, C.2.)

TOXICITY - FISH

Mortality LC50 - Danio rerio (zebra fish) - > 100 mg/l -  
96 h (OECD Test Guideline 203)Mortality LC50 - Cyprinus carpio (Carp) - > 100 mg/l -  
96 h (OECD Test Guideline 203)

TOXICITY - ALGAE

Static test EC50 - Desmodesmus subspicatus (green  
algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)

TOXICITY – SEDIMENT COMPARTMENT

n/a

TOXICITY – TERRESTRIAL COMPARTMENT

n/a

TOXICITY – BACTERIA

Respiration inhibition EC50 - Sludge Treatment - >  
10.000 mg/l - 3h (OECD Test Guideline 209)**12.2. PERSISTENCE AND DEGRADATION**

Biodegradability aerobic - Exposure time 28 d

Result: 5 % - Not biodegradable  
(OECD Test Guideline 301C)**12.3. BIOACCUMULATIVE POTENTIAL**

n/a

**12.4. MOBILITY IN SOIL**

n/a

**12.5. RESULTS OF PBT AND VPVB ASSESMENT**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6. ENDOCRINE DISRUPTING PROPERTIES**

n/a

**12.7. OTHER ADVERSE EFFECTS**

n/a

**SECTION 13: DISPOSAL CONSIDERATIONS**

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**13.1. WASTE TREATMENT METHODS**

Dispose of the product in accordance with the regulations of the local, state or national authorities. Recycling should be carried out only for fully emptied packaging. The recommended method for disposal is through incineration managed by a licensed disposal contractor. Alternatively, send the product to a licensed recycler, reclaimer or incinerator.

**13.2. ADDITIONAL INFORMATION**

Disposal should be in accordance with local, state or national legislation.

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### SECTION 14: TRANSPORT INFORMATION

#### 14.1. UN NUMBER

ADR/RID	-	IMDG	-	IATA	-
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#### 14.2. UN PROPER SHIPPING NAME

ADR/RID	Not dangerous
IMDG	Not dangerous
IATA	Not dangerous

#### 14.3. TRANSPORT HAZARD CLASS(ES)

ADR/RID	-	IMDG	-	IATA	-
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#### 14.4 PACKAGING GROUP

ADR/RID	-	IMDG	-	IATA	-
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#### 14.5 ENVIRONMENTAL HAZARDS

ADR/RID	no	IMDG	no	IATA	No
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#### 14.6 SPECIAL PRECAUTIONS FOR USER

#### FURTHER INFORMATION

This substance does not meet the criteria for classification as hazardous according to transportation regulations.

### SECTION 15: REGULATORY INFORMATION

#### 15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

##### EUROPEAN REGULATIONS – AUTHORISATIONS AND/OR RESTRICTIONS ON USE

CANDIDATE LIST OF SUBSTANCES OF VERY HIGH CONCERN FOR AUTHORISATION	not listed
REACH: ANNEX XIV LIST OF SUBSTANCES SUBJECT TO AUTHORISATION	not listed
REACH: ANNEX XVII RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES	not listed
COMMUNITY ROLLING ACTION PLAN (CORAP)	not listed
REGULATION (EC) N° 850/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL ON PERSISTENT ORGANIC POLLUTANTS	not listed
REGULATION (EC) N° 1005/2009 ON SUBSTANCES THAT DEplete THE OZONE LAYER	not listed
REGULATION (EU) N° 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL CONCERNING THE EXPORT AND IMPORT OF HAZARDOUS CHEMICALS	not listed

##### NATIONAL REGULATIONS

OTHER	not known
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### 15.2. CHEMICAL SAFETY ASSESSMENT

For this product a chemical safety assessment was not carried out.

### SECTION 16: OTHER INFORMATION

#### THE FOLLOWING SECTIONS CONTAIN REVISIONS OR NEW STATEMENTS:

n/a

### LEGEND

#### ACRONYMS

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL	Derived No Effect Level
EC	European Community
EINECS	European Inventory of Existing Commercial Chemical Substances
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
LTEL	Long term exposure limit
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STEL	Short term exposure limit
STOT	Specific Target Organ Toxicity
UN	United Nations
vPvB	very Persistent and very Bioaccumulative

#### DISCLAIMERS

This MSDS has been prepared to the best of Noctiluca S.A. ability using currently available information. However, Noctiluca S.A. cannot guarantee the accuracy of the data and hazard assessments provided. Before using the product, it is important to thoroughly research and understand the relevant laws, regulations, and potential hazards. It is recommended to use the product as soon as possible after purchase with safety in mind. Any updates or changes will be added as necessary. The listed precautions are for normal handling, but if special handling is required, additional safety measures should be taken. Chemical products should be considered potentially hazardous and toxic, with the degree of risk dependent on various factors. Only those with specialised knowledge and experience or under the guidance of such individuals should handle the product from opening to storage and disposal. Each user is responsible for establishing safe usage conditions and obtaining any necessary intellectual property permission related to the use of product, compliance with all applicable regulatory requirements and generally accepted industry standards, and conducting all necessary testing and verification, including for fitness for the intended purpose. Noctiluca S.A. makes no representation or warranty of any kind, express or implied, including merchantability or fitness for a particular use regarding the product, its application or any information provided in connection therewith. The foregoing information and suggestions are also provided without warranty of non-infringement as to intellectual property rights of third parties and shall not be construed as any inducement to infringe the rights of third parties. Noctiluca S.A. shall not be liable for incidental, consequential, indirect, exemplary or special damages of any kind, including, without limitation, liability for any damage resulting from handling or from contact with the above product, in particularly all risk and liability for loss, damage or injury to persons or to property or others arising out of the transport, storage or use of product, including infringement of any third-party intellectual property rights resulting from use of product. In addition, Noctiluca S.A. shall not be liable for incidental, consequential, indirect, exemplary or special damages of any kind, including, without limitation, liability for loss of use, loss of work in progress, loss of revenue or profits, cost of substitute equipment, facilities or services, downtime costs, damage to reputation, product recall or business interruption or any liability of purchaser to a third party.