



# MATERIAL SAFETY DATA SHEET SDS/MSDS

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Lead (ii) Nitrate 0.01M (0.02N) Standardized Solution

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

#### **Use of the substance/mixture**

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

#### **Uses advised against**

Do not use for private purposes (household).

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

Company name: Bio-Chem Chemicals  
5455 Nicholson Road, Science Market  
Ambala Cantt, 133001 - Haryana  
+91 82952 41953  
info@biofinechemical.com - www.biofinechemical.com

### 1.4. Emergency telephone

number: +91 99921 51495 (10.00am - 06.30pm) (Office Hours)

### **Further Information**

This product is a mixture. REACH Registration Number see section 3.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### **Regulation (EC) No 1272/2008**

Repr. 1A; H360D

Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

#### **Regulation (EC) No 1272/2008**

#### **Hazard components for labelling**

lead dinitrate

**Signal word:** Danger

**Pictograms:**



#### **Hazard statements**

H360D

May damage the unborn child.

H412

Harmful to aquatic life with long lasting effects.

### Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.

### Special labelling of certain mixtures

EUH201	Contains lead. Should not be used on surfaces liable to be chewed or sucked by children. Restricted to professional users.
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### 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Chemical characterization

Mixtures in aqueous solution

#### Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
10099-74-8	lead dinitrate			< 1 %
	233-245-9	082-001-00-6		
	Repr. 1A, Acute Tox. 4, Acute Tox. 4, Eye Dam. 1, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H360Df H332 H302 H318 H373 H400 H410			

Full text of H and EUH statements: see section 16.

#### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
10099-74-8	233-245-9	lead dinitrate	< 1 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg Repr. 2; H361f: >= 2,5 - 100 STOT RE 2; H373: >= 0,5 - 100	

#### Further Information

No data available

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

Take off immediately all contaminated clothing.

#### After inhalation

Provide fresh air.

Call a physician immediately.

#### After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.



# MATERIAL SAFETY DATA SHEET SDS/MSDS

## **After contact with eyes**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
Protect uninjured eye.

## **After ingestion**

Rinse mouth immediately and drink plenty of water.  
Call a physician immediately.

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

Vomiting  
Irritant  
Gastrointestinal complaints

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

No data available

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

#### **Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

#### **Unsuitable extinguishing media**

no restriction

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

Non-combustible solids  
Hazardous combustion products  
In case of fire may be liberated:  
Metal oxide smoke, toxic  
Nitrogen oxides (NO<sub>x</sub>)

### **5.3. Advice for firefighters**

Do not inhale explosion and combustion gases.  
Avoid contact with skin, eyes and clothes.  
In case of fire: Wear self-contained breathing apparatus.

## **Additional information**

Suppress gases/vapours/mists with water spray jet.  
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.  
Move undamaged containers from immediate hazard area if it can be done safely.  
Use water spray jet to protect personnel and to cool endangered containers.

## **SECTION 6: Accidental release measures**

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

#### **For non-emergency personnel**

Provide adequate ventilation.  
Use personal protection equipment.  
Avoid contact with skin, eyes and clothes.  
Remove persons to safety.  
Emergency procedures  
Consult an expert  
Do not breathe dust/fume/gas/mist/vapours/spray.

#### **For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8



# MATERIAL SAFETY DATA SHEET

## SDS/MSDS

### **6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

### **6.3. Methods and material for containment and cleaning up**

#### **For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### **For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

#### **Other information**

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

### **6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

## **SECTION 7: Handling and storage**

### **7.1. Precautions for safe handling**

#### **Advice on safe handling**

Read label before use. Handle and open container with care.

Do not breathe vapour/aerosol. Avoid: aerosol or mist formation

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Use extractor hood (laboratory).

Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

#### **Advice on protection against fire and explosion**

Usual measures for fire prevention.

#### **Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs. Make available sufficient washing facilities

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

#### **Further information on handling**

Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary.

Take off immediately all contaminated clothing and wash it before reuse.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

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

#### **Requirements for storage rooms and vessels**

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

Store in a place accessible by authorized persons only.

#### **Further information on storage conditions**

Store in a dry place.

### **7.3. Specific end use(s)**

Laboratory chemicals

## **SECTION 8: Exposure controls/personal protection**

### 8.1. Control parameters

#### PNEC values

CAS No	Substance	
Environmental compartment		Value
10099-74-8	lead dinitrate	
Freshwater		0,0065 mg/l
Marine water		0,0034 mg/l
Freshwater sediment		174 mg/kg
Marine sediment		164 mg/kg
Secondary poisoning		10,9 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,1 mg/l
Soil		147 mg/kg

### 8.2. Exposure controls

#### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Do not breathe vapour/aerosol.

Avoid: aerosol or mist formation

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

goggles

Wear eye protection/face protection.

##### Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact

Trade name/designation KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

##### Skin protection

Wear suitable protective clothing.

Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

##### Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.



# MATERIAL SAFETY DATA SHEET

## SDS/MSDS

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### Environmental exposure controls

Do not allow to enter into surface water or drains.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		No data available
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		4,4
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		
No data available		
Dissolution rate:		No data available
Partition coefficient n-octanol/water:		No data available
Dispersion stability:		No data available
Vapour pressure:		No data available
Vapour pressure:		No data available
Density:		No data available
Relative density:		No data available
Bulk density:		No data available
Relative vapour density:		No data available
Particle characteristics:		No data available

### 9.2. Other information

#### Information with regard to physical hazard classes

Explosive properties	
No data available	
Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	No data available
Gas:	No data available
Oxidizing properties	
No data available	

#### Other safety characteristics

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	0
Solid content:	0
Sublimation point:	No data available
Softening point:	No data available



# MATERIAL SAFETY DATA SHEET

## SDS/MSDS

Pour point: No data available  
No data available:  
Viscosity / dynamic: No data available  
Flow time: No data available

### Further Information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No data available

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

No data available

### 10.4. Conditions to avoid

No data available

### 10.5. Incompatible materials

No data available

### 10.6. Hazardous decomposition products

In case of fire may be liberated:  
SECTION 5: Firefighting measures

### Further information

No data available

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Toxicokinetics, metabolism and distribution

There are no data available on the preparation/mixture itself.

#### Acute toxicity

Based on available data, the classification criteria are not met.

#### ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
10099-74-8	lead dinitrate				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2003)	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2003)	OECD Guideline 402
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			

#### Irritation and corrosivity

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.



# MATERIAL SAFETY DATA SHEET

## SDS/MSDS

### Sensitising effects

Based on available data, the classification criteria are not met.

### Carcinogenic/mutagenic/toxic effects for reproduction

May damage the unborn child. (lead dinitrate)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

### STOT-single exposure

Based on available data, the classification criteria are not met.

### STOT-repeated exposure

Based on available data, the classification criteria are not met.

### Aspiration hazard

Based on available data, the classification criteria are not met.

### Information on likely routes of exposure

There are no data available on the preparation/mixture itself.

### Specific effects in experiment on an animal

There are no data available on the preparation/mixture itself.

### Additional information on tests

There are no data available on the preparation/mixture itself.

### Practical experience

There are no data available on the preparation/mixture itself.

## 11.2. Information on other hazards

### Endocrine disrupting properties

There are no data available on the preparation/mixture itself.

### Other information

There are no data available on the preparation/mixture itself.

### Further information

Vomiting

Irritant

Risk of serious damage to eyes.

Gastrointestinal complaints

## SECTION 12: Ecological information

### 12.1. Toxicity

Harmful to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
10099-74-8	lead dinitrate					
	Acute fish toxicity	LC50 mg/l	1,17	96 h	Oncorhynchus mykiss	Publication (1976) Acute bioassays
	Acute algae toxicity	ErC50 mg/l	0,123	72 h	Pseudokirchneriella subcapitata	Study report (2008) OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	0,59683	48 h	Ceriodaphnia dubia	Study report (2007) other: USEP
	Fish toxicity	NOEC mg/l	0,087	62 d	Oncorhynchus mykiss	Publication (2008) methods adapted from the standard guide
	Crustacea toxicity	NOEC mg/l	0,099	7 d	Ceriodaphnia dubia	Publication (1995) chronic toxicity testing of lead to aqua





# MATERIAL SAFETY DATA SHEET

## SDS/MSDS

### **12.2. Persistence and degradability**

There are no data available on the mixture itself.

### **12.3. Bioaccumulative potential**

There are no data available on the mixture itself.

#### **BCF**

CAS No	Chemical name	BCF	Species	Source
10099-74-8	lead dinitrate	3250	Hyalella azteca	Hydrobiologia 259: 7

### **12.4. Mobility in soil**

There are no data available on the mixture itself.

### **12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

### **12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### **12.7. Other adverse effects**

There are no data available on the mixture itself.

#### **Further information**

Do not allow to enter into surface water or drains.  
Discharge into the environment must be avoided.

## **SECTION 13: Disposal considerations**

### **13.1. Waste treatment methods**

#### **Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.  
Send to a physico-chemical treatment facility under observation of official regulations.  
Do not allow to enter into surface water or drains.

#### **Contaminated packaging**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.  
Handle contaminated packages in the same way as the substance itself.

## **SECTION 14: Transport information**

#### **Land transport (ADR/RID)**

<b><u>14.1. UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.4. Packing group:</u></b>	No dangerous good in sense of this transport regulation.

#### **Inland waterways transport (ADN)**

<b><u>14.1. UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.4. Packing group:</u></b>	No dangerous good in sense of this transport regulation.

#### **Marine transport (IMDG)**

<b><u>14.1. UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.4. Packing group:</u></b>	No dangerous good in sense of this transport regulation.

#### **Air transport (ICAO-TI/IATA-DGR)**



# MATERIAL SAFETY DATA SHEET

## SDS/MSDS

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

### **14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

### **14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

### **14.7. Maritime transport in bulk according to IMO instruments**

No dangerous good in sense of this transport regulation.

## **SECTION 15: Regulatory information**

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

#### **EU regulatory information**

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):

lead dinitrate

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 63, Entry 75

#### **National regulatory information**

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water hazard class (D):

2 - obviously hazardous to water

## **SECTION 16: Other information**

### **Changes**

This data sheet contains changes from the previous version in section(s): 1,9,12,15.

### **Abbreviations and acronyms**

Acute Tox: Acute toxicity

Eye Dam: Eye damage

Repr: Reproductive toxicity

STOT RE: Specific target organ toxicity - repeated exposure

Aquatic Acute: Acute aquatic hazard

Aquatic Chronic: Chronic aquatic hazard

### **Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]**

Classification	Classification procedure
Repr. 1A; H360D	Calculation method
Aquatic Chronic 3; H412	Calculation method

### **Relevant H and EUH statements (number and full text)**

H302 Harmful if swallowed.  
H318 Causes serious eye damage.  
H332 Harmful if inhaled.  
H360D May damage the unborn child.  
H360Df May damage the unborn child. Suspected of damaging fertility.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H400 Very toxic to aquatic life.



## MATERIAL SAFETY DATA SHEET SDS/MSDS

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H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH201	Contains lead. Should not be used on surfaces liable to be chewed or sucked by children.