

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 SDS Reference Number: 04373

Issue date: 4/9/2014 Revision date: 9/6/2024 Supersedes version of: 4/9/2015 Version: 1.0

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

1.1. Product identifier

Product form : Substance

Trade name : LEAD DIOXIDE AR/ACS

EC Index-No. : 082-001-00-6 EC-No. : 215-174-5 CAS-No. : 1309-60-0 Product code : 04373

Type of product : Inorganic compound

Formula : PbO2

Chemical structure

O NPb O

Synonyms : Lead (IV) oxide, Plumbic oxide

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

Relevant identified uses

Use of the substance/mixture : Industrial. For professional use only.

Use of the substance/mixture : Laboratory chemicals

Manufacture of substances

1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT.LTD.

107 Wode House Road, Jehangir Villa, Colaba

400005 Mumbai

INDIA

T +91 22 6663 6663, F +91 22 6663 6699

info@lobachemie.com, www.lobachemie.com

1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Oxidising Solids, Category 2

Acute toxicity (oral), Category 4

Acute toxicity (inhalation:dust,mist) Category 4

Reproductive toxicity, Category 1A

Specific target organ toxicity – Repeated exposure, Category 2 H373

Hazardous to the aquatic environment – Chronic Hazard,

H410

Category 1

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

Adverse physicochemical, human health and environmental effects

May intensify fire; oxidiser. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Harmful if inhaled. Harmful if swallowed. Very toxic to aquatic life with long lasting effects.

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2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP) : Danger

Hazard statements (CLP) : H272 - May intensify fire; oxidiser.

H302+H332 - Harmful if swallowed or if inhaled.

H360Df - May damage the unborn child. Suspected of damaging fertility. H373 - May cause damage to organs through prolonged or repeated exposure.

H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : P201 - Obtain special instructions before use.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P273 - Avoid release to the environment.

P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
	CAS-No.: 1309-60-0 EC-No.: 215-174-5 EC Index-No.: 082-001-00-6	100

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice. Call a poison center or a

doctor if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention.

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

First-aid measures after ingestion : Rinse mouth. Call a POISON CENTER/doctor if you feel unwell. Call a poison center or a doctor if you feel unwell.

First-aid measures for first aider : First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects : May damage the unborn child. Suspected of damaging fertility. Causes damage to organs through prolonged or repeated exposure.

Symptoms/effects after inhalation : Harmful if inhaled.

Symptoms/effects after skin contact : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.

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Symptoms/effects after eye contact : None under normal conditions. Dust from this product may cause eye irritation.

Symptoms/effects after ingestion : Harmful if swallowed.

Chronic symptoms : May damage fertility or the unborn child.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2). Dry

powder. Foam.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : May intensify fire; oxidiser.

Explosion hazard : Heating may cause an explosion.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper

protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Notify authorities if product enters sewers or public waters. Absorb spillage to prevent

material damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Evacuate unnecessary personnel. No open flames, no sparks, and no smoking. Only

qualified personnel equipped with suitable protective equipment may intervene. Do not

breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Use personal protective

equipment as required. For further information refer to section 8: "Exposure

controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel.

6.2. Environmental precautions

Avoid release to the environment. Very toxic to aquatic life with long lasting effects. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Mechanically recover the product. Clear up rapidly by scoop or vacuum. Notify authorities if

product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed Precautions for safe handling

- : Not expected to present a significant hazard under anticipated conditions of normal use.
- Avoid contact with skin and eyes. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in

a well-ventilated area.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face

thoroughly after handling. Separate working clothes from town clothes. Launder separately.

Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Store in original container. Keep container tightly closed. Store in a dry place. Store locked

up.

Incompatible materials : combustible materials.

Packaging materials : Store always product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):







Eye and face protection

Eye protection:

Chemical goggles or safety glasses

Skin protection

Skin and body protection:

Wear a mask

Hand protection:

Protective gloves

Respiratory protection

Respiratory protection:

Wear appropriate mask

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Environmental exposure controls

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 : Brownish black. Dark brown.

Appearance : Powder.

Molecular mass : 239.2 g/mol
Odour : Odourless.
Odour threshold : Not available

Melting point : 290 °C (decomposes)
Freezing point : Not applicable
Boiling point : Not available
Flammability : Not available

Oxidising properties : The substance or mixture is classified as oxidizing with the subcategory 2.

Lower explosion limit : Not applicable Upper explosion limit : Not applicable Flash point : Not applicable Auto-ignition temperature : Not applicable Decomposition temperature : 290 °C pH : 6 - 7 at 20 °C pH solution concentration : 10 % Slurry Viscosity, kinematic : Not applicable

Solubility : Water: Insoluble in water

Ethanol: Insoluble in Ethanol

Partition coefficient n-octanol/water (Log Kow) : Not available Vapour pressure : Not available Vapour pressure at 50°C : Not available Density : 9.38 g/cm³ at 20 °C Relative density : Not available

Relative vapour density at 20°C : 8.2

Particle size : Not available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

May intensify fire; oxidiser.

10.2. Chemical stability

May cause or intensify fire; oxidiser.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Overheating. Open flame. Heat. Sparks. Avoid contact with hot surfaces. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Combustible materials.

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10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Harmful if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Inhalation:dust,mist: Harmful if inhaled.

Skin corrosion/irritation : Not classified

pH: 6 – 7 at 20 °C

Serious eye damage/irritation : Not classified

pH: 6 - 7 at 20 °C

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : May damage the unborn child. Suspected of damaging fertility.

STOT-single exposure : Not classified

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Additional information : There are potential chronic health effects to consider

Aspiration hazard : Not classified

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Viscosity, kinematic Not applicable

11.2. Information on other hazards

Other information

Potential adverse human health effects and

symptoms

: Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

Ecology - water : Very toxic to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short-term : Not classified

(acute)

Hazardous to the aquatic environment, long-term

(chronic)

: Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

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Persistence and degradability Rapidly degradable

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

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12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance

with local, regional, national and/or international regulation. Disposal must be done

according to official regulations.

Additional information : Do not re-use empty containers.

SECTION 14: Transport information

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

14.1. UN number or ID number

 UN-No. (ADR)
 : UN 1872

 UN-No. (IMDG)
 : UN 1872

 UN-No. (IATA)
 : UN 1872

 UN-No. (ADN)
 : UN 1872

 UN-No. (RID)
 : UN 1872

14.2. UN proper shipping name

Proper Shipping Name (ADR) : LEAD DIOXIDE
Proper Shipping Name (IMDG) : LEAD DIOXIDE
Proper Shipping Name (IATA) : Lead dioxide
Proper Shipping Name (ADN) : LEAD DIOXIDE
Proper Shipping Name (RID) : LEAD DIOXIDE

Transport document description (ADR) : UN 1872 LEAD DIOXIDE, 5.1 (6.1), III, (E)

Transport document description (IMDG) : UN 1872 LEAD DIOXIDE, 5.1, III, MARINE POLLUTANT/ENVIRONMENTALLY

HAZARDOUS

Transport document description (IATA)

: UN 1872 Lead dioxide, 5.1, III, ENVIRONMENTALLY HAZARDOUS

Transport document description (ADN)

: UN 1872 LEAD DIOXIDE, 5.1 (6.1), III, ENVIRONMENTALLY HAZARDOUS

Transport document description (RID)

: UN 1872 LEAD DIOXIDE, 5.1, III, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 5.1 (6.1)
Danger labels (ADR) : 5.1, 6.1

5.1



IMDG

Transport hazard class(es) (IMDG) : 5.1
Danger labels (IMDG) : 5.1

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IATA

Transport hazard class(es) (IATA) : 5.1 : 5.1 Danger labels (IATA)



ADN

Transport hazard class(es) (ADN) : 5.1 (6.1) Danger labels (ADN) : 5.1, 6.1



RID

Transport hazard class(es) (RID) : 5.1 Danger labels (RID)

5.1



14.4. Packing group

Packing group (ADR) : 111 Packing group (IMDG) : 111 Packing group (IATA) : 111 Packing group (ADN) : 111 Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : Yes Marine pollutant Yes EmS-No. (Fire) : F-A EmS-No. (Spillage) : S-Q

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : OT2 : 5kg Limited quantities (ADR) Excepted quantities (ADR) : E1

Packing instructions (ADR) : P002, IBC08, LP02, R001

Special packing provisions (ADR) : B3 Mixed packing provisions (ADR) : MP2 Portable tank and bulk container instructions (ADR) : T1 Portable tank and bulk container special provisions : TP33

(ADR)

Tank code (ADR) : SGAN Tank special provisions (ADR) : TU3 Vehicle for tank carriage : AT Transport category (ADR) : 3

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Special provisions for carriage - Loading, unloading : CV24, CV28

and handling (ADR)

Hazard identification number (Kemler No.) : 56

Orange plates :

56 1872

Tunnel restriction code (ADR) : E EAC code : 1X

Transport by sea

Limited quantities (IMDG) : 5 kg : E1 Excepted quantities (IMDG) Packing instructions (IMDG) : P002, LP02 : IBC08 IBC packing instructions (IMDG) : B3 IBC special provisions (IMDG) Tank instructions (IMDG) T1 TP33 Tank special provisions (IMDG) Stowage category (IMDG) : A

Segregation (IMDG) : SGG7, SGG9

Properties and observations (IMDG) : Brown powder or crystals. Insoluble in water. Harmful if swallowed.

MFAG-No : 141

Air transport

: E1 PCA Excepted quantities (IATA) PCA Limited quantities (IATA) Y546 PCA limited quantity max net quantity (IATA) 10kg PCA packing instructions (IATA) 559 PCA max net quantity (IATA) : 25kg CAO packing instructions (IATA) : 563 CAO max net quantity (IATA) : 100kg Special provisions (IATA) : A803 ERG code (IATA) : 5L

Inland waterway transport

Classification code (ADN) : OT2
Special provisions (ADN) : 802
Limited quantities (ADN) : 5 kg
Excepted quantities (ADN) : E1
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : O2
Limited quantities (RID) : 5kg
Excepted quantities (RID) : E1

Packing instructions (RID) : P002, IBC08, LP02, R001

Special packing provisions (RID) : B3
Mixed packing provisions (RID) : MP2
Portable tank and bulk container instructions (RID) : T1
Portable tank and bulk container special provisions : TP33

(RID)

Tank codes for RID tanks (RID) : SGAV
Special provisions for RID tanks (RID) : TU3
Transport category (RID) : 3

Special provisions for carriage – Bulk (RID) : VC1, VC2, AP6, AP7

Special provisions for carriage - Loading, unloading : CW24

and handling (RID)

Colis express (express parcels) (RID) : CE11
Hazard identification number (RID) : 50

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14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)	
Reference code	Applicable on
30.	LEAD DIOXIDE AR/ACS

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Listed on the PIC list (Regulation EU 649/2012): lead dioxide

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

National regulations

Germany

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV).

Chemicals Prohibition Ordinance (ChemVerbotsV) : This product is subject to ChemVerbotsV Annex 2 Entry 1. The following requirements must be observed: authorization requirement (according to § 6 paragraph 1 sentence 1), basic

requirements for carrying out the delivery (according to § 8 paragraph 1, 3 and 4), identification and documentation (according to § 9 paragraph 1 to 3) and exclusion of the

shipping route (according to § 10).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed SZW-lijst van mutagene stoffen : The substance is not listed SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen – : LEAD DIOXIDE is listed

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – Ontwikkeling :

: LEAD DIOXIDE is listed

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Denmark

Danish National Regulations

: Young people below the age of 18 years are not allowed to use the product Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acr	Abbreviations and 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		
ATE	Acute Toxicity Estimate		
BCF	Bioconcentration factor		
BLV	Biological limit value		
BOD	Biochemical oxygen demand (BOD)		
COD	Chemical oxygen demand (COD)		
DMEL	Derived Minimal Effect level		
DNEL	Derived-No Effect Level		
EC-No.	European Community number		
EC50	Median effective concentration		
EN	European Standard		
IARC	International Agency for Research on Cancer		
IATA	International Air Transport Association		
IMDG	International Maritime Dangerous Goods		
LC50	Median lethal concentration		
LD50	Median lethal dose		
LOAEL	Lowest Observed Adverse Effect Level		
NOAEC	No-Observed Adverse Effect Concentration		
NOAEL	No-Observed Adverse Effect Level		
NOEC	No-Observed Effect Concentration		
OECD	Organisation for Economic Co-operation and Development		
OEL	Occupational Exposure Limit		
PBT	Persistent Bioaccumulative Toxic		
PNEC	Predicted No-Effect Concentration		
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail		
SDS	Safety Data Sheet		
STP	Sewage treatment plant		
ThOD	Theoretical oxygen demand (ThOD)		
TLM	Median Tolerance Limit		
VOC	Volatile Organic Compounds		

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Abbreviations and acronyms:	
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disruptor

Full text of H- and EUH-statements:	
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.
Ox. Sol. 2	Oxidising Solids, Category 2
Repr. 1A	Reproductive toxicity, Category 1A
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.