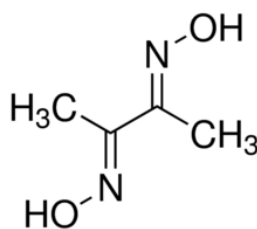


## MATERIAL SAFETY DATA SHEET (MSDS)

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

## 1.1. Product identifier

Product form : Substance  
:  
CAS-No. : 95-45-4  
Product code : 03401  
Formula : C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>  
Chemical structure :



Synonyms : Diacetyldioxime

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

## 1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial  
For professional use only

## 1.2.2. Uses advised against

No additional information available

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

CHEMIECALL  
Jl. Diklat Pemda, Dukuh Pinang No. 24 RT.001/003  
Kel. Bojong Nangka Kec. Kelapa Dua Tangerang 15821  
Contact: +62(21) 54210228  
[info@chemiecall.com](mailto:info@chemiecall.com) [www.chemiecall.com](http://www.chemiecall.com)

## SECTION 2: Hazards identification

## 2.1. Classification of the substance or mixture

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

Flammable solids, H228  
Category 1  
Acute toxicity (oral), H301  
Category 3

Full text of H statements : see section 16

# DIMETHYL GLYOXIME AR/ACS

## Safety Data Sheet

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11

T; R25

Full text of R-phrases: see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS06

GHS02

Signal word (CLP) : Danger

Hazard statements (CLP) : H228 - Flammable solid.  
H301 - Toxic if swallowed.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER/doctor

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : DIMETHYL GLYOXIME AR/ACS

CAS-No. : 95-45-4

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

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Assure fresh air breathing. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

# DIMETHYL GLYOXIME AR/ACS

## Safety Data Sheet

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

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

- Symptoms/effects after ingestion : Toxic if swallowed.

### 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 : Carbon dioxide. Dry powder. Foam. Water spray.
- Unsuitable extinguishing media : Do not use a heavy water stream.

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

- Fire hazard : Flammable solid.
- Explosion hazard : May form flammable/explosive vapour-air mixture.

### 5.3. Advice for firefighters

- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

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

- General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Use personal protective equipment as required.
- Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment.

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

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. On land, sweep or shovel into suitable containers.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.
- Precautions for safe handling : Avoid contact with skin and eyes. Do not breathe vapours. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Provide good ventilation in process area to prevent formation of vapour.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

# DIMETHYL GLYOXIME AR/ACS

## Safety Data Sheet

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

Technical measures	: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment.
Storage conditions	: Keep container tightly closed. Keep in fireproof place.
Incompatible materials	: Heat sources.

### 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

Hand protection	: Protective gloves
Eye protection	: Chemical goggles or safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: [In case of inadequate ventilation] wear respiratory protection.

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Molecular mass	: 116.12 g/mol
Colour	: White crystalline.
Odour	: odourless.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 240 - 241 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable solid.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available

# DIMETHYL GLYOXIME AR/ACS

## Safety Data Sheet

Relative density	: No data available
Solubility	: Water: Insoluble in water
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Open flame. Heat. Sparks.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed.

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Not classified  
Respiratory or skin sensitisation : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified

Reproductive toxicity : Not classified  
STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

# DIMETHYL GLYOXIME AR/ACS

## Safety Data Sheet

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Toxic if swallowed.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 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

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

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.

Additional information : Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials : Hazardous waste due to toxicity.

### SECTION 14: Transport information

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

#### 14.1. UN number

UN-No. (ADR) : 2926

UN-No. (IMDG) : 2926

UN-No. (IATA) : 2926

UN-No. (ADN) : 2926

UN-No. (RID) : 2926

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.

Proper Shipping Name (IMDG) : FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.

Proper Shipping Name (IATA) : Flammable solid, toxic, organic, n.o.s.

# DIMETHYL GLYOXIME AR/ACS

## Safety Data Sheet

Proper Shipping Name (ADN)	: FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.
Proper Shipping Name (RID)	: FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.
Transport document description (ADR)	: UN 2926 FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S., 4.1 (6.1), III, (E)
Transport document description (IMDG)	: UN 2926 FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S., 4.1 (6.1), III
Transport document description (IATA)	: UN 2926 Flammable solid, toxic, organic, n.o.s., 4.1, III
Transport document description (ADN)	: UN 2926 FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S., 4.1 (6.1), III
Transport document description (RID)	: UN 2926 FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S., 4.1 (6.1), III

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR)	: 4.1 (6.1)
Danger labels (ADR)	: 4.1, 6.1



#### IMDG

Transport hazard class(es) (IMDG)	: 4.1 (6.1)
Danger labels (IMDG)	: 4.1, 6.1



#### IATA

Transport hazard class(es) (IATA)	: 4.1 (6.1)
Hazard labels (IATA)	: 4.1, 6.1



#### ADN

Transport hazard class(es) (ADN)	: 4.1 (6.1)
Danger labels (ADN)	: 4.1, 6.1



#### RID

Transport hazard class(es) (RID)	: 4.1 (6.1)
Danger labels (RID)	: 4.1, 6.1



# DIMETHYL GLYOXIME AR/ACS

## Safety Data Sheet

### 14.4. Packing group


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

### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR)	: FT1
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 5kg
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P002, IBC06, R001
Mixed packing provisions (ADR)	: MP10
Portable tank and bulk container instructions (ADR)	: T1
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAN
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV28
Hazard identification number (Kemler No.)	: 46
Orange plates	: 
Tunnel restriction code (ADR)	: E
EAC code	: 1X

#### - Transport by sea

Special provisions (IMDG)	: 223, 274, 915
Packing instructions (IMDG)	: P002
IBC packing instructions (IMDG)	: IBC06
Tank instructions (IMDG)	: T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-G
Stowage category (IMDG)	: B
Stowage and handling (IMDG)	: SW2
Properties and observations (IMDG)	: Toxic if swallowed, by skin contact or by dust inhalation. Should be handled with care to minimize exposure, particularly to dust.
MFAG-No	: 134

#### - Air transport

PCA Excepted quantities (IATA)	: E1
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# DIMETHYL GLYOXIME AR/ACS

## Safety Data Sheet

PCA Limited quantities (IATA)	: Y443
PCA limited quantity max net quantity (IATA)	: 10kg
PCA packing instructions (IATA)	: 446
PCA max net quantity (IATA)	: 25kg
CAO packing instructions (IATA)	: 449
CAO max net quantity (IATA)	: 100kg
Special provisions (IATA)	: A3, A803
ERG code (IATA)	: 3P

### - Inland waterway transport

Classification code (ADN)	: FT1
Special provisions (ADN)	: 274, 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)	: FT1
Special provisions (RID)	: 274
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P002, IBC06, R001
Mixed packing provisions (RID)	: MP10
Portable tank and bulk container instructions (RID)	: T1
Portable tank and bulk container special provisions (RID)	: TP33
Tank codes for RID tanks (RID)	: SGAN
Transport category (RID)	: 3
Special provisions for carriage – Packages (RID)	: W1
Special provisions for carriage - Loading, unloading and handling (RID)	: CW28
Colis express (express parcels) (RID)	: CE11
Hazard identification number (RID)	: 46

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

DIMETHYL GLYOXIME AR/ACS is not on the REACH Candidate List

DIMETHYL GLYOXIME AR/ACS is not on the REACH Annex XIV List

#### 15.1.2. National regulations

# DIMETHYL GLYOXIME AR/ACS

## Safety Data Sheet

### Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

### Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

## 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Flam. Sol. 1	Flammable solids, Category 1
H228	Flammable solid.
H301	Toxic if swallowed.
R11	Highly flammable
R25	Toxic if swallowed
F	Highly flammable
T	Toxic

*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*