

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Phosphomolybdic Acid - Orange G (C)

Revision date: 13.02.2020

Product code: 11602.xxxxx

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

1.1. Product identifier

Phosphomolybdic Acid - Orange G (C)

Further trade names

This MSDS covers the following products:

- REF 11602.xxxxx: Phosphormolybdänsäure - Orange G (C)

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

Use of the substance/mixture

Use as laboratory reagent. The product is intended for research, analysis and scientific education.

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name:	MORPHISTO GmbH	
Street:	Schumannstr. 142/144	
Place:	D-63069 Offenbach	
Telephone:	+49 (0) 69 / 400 3019-60	Telefax: +49 (0) 69 / 400 3019-64
e-mail:	info@morphisto.de	
Internet:	http://www.morphisto.de	

Supplier

Company name:	MORPHISTO GmbH	
Street:	Schumannstr. 142/144	
Place:	D-63069 Offenbach	
Telephone:	+49 (0) 69 / 400 3019-60	Telefax: +49 (0) 69 / 400 3019-64
e-mail:	info@morphisto.de	
Internet:	http://www.morphisto.de	

1.4. Emergency telephone number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Dam. 1

Hazard Statements:

Causes skin irritation.

Causes serious eye damage.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

Molybdophosphoric acid hydrate

Signal word: Danger

Pictograms:



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Hazard statements

H315 Causes skin irritation.
 H318 Causes serious eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER/doctor.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P403 Store in a well-ventilated place.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients
3.2. Mixtures

Chemical characterization
 aqueous solution

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
51429-74-4	Molybdophosphoric acid hydrate			1 - < 5 %
	234-713-5			
	Ox. Sol. 2, Skin Corr. 1B; H272 H314			
1936-15-8	Orange G			< 1 %
	217-705-6			

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

Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

SECTION 4: First aid measures
4.1. Description of first aid measures
General information

First aider: Pay attention to self-protection! In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
 Remove contaminated, saturated clothing immediately. Remove casualty to fresh air and keep warm and at rest.

After inhalation

Remove person to fresh air and keep comfortable for breathing. In case of breathing difficulties administer oxygen. In case of respiratory tract irritation, consult a physician.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

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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. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth thoroughly with water. Call a physician immediately. Let water be drunk in little sips (dilution effect). Do NOT induce vomiting. Do not attempt to neutralise with alkalis, do not give active charcoal!

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

Causes burns.

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

Co-ordinate fire-fighting measures to the fire surroundings. Carbon dioxide (CO₂). Dry extinguishing powder. alcohol resistant foam. Atomized water.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

The product itself does not burn. Can be released in case of fire: Phosphorus oxides. metal oxides.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Co-ordinate fire-fighting measures to the fire surroundings.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

For non-emergency personnel

Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Clear danger zone. Follow emergency plan. Consult an expert.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

For containment

Cover drains. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

For cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Safe handling: see section 7

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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

Provide adequate ventilation. If handled uncovered, arrangements with local exhaust ventilation have to be used. Use extractor hood (laboratory). Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Wear suitable protective clothing. (See section 8.) Always close containers tightly after the removal of product.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Further information on handling

When using do not eat, drink, smoke, sniff. Take off contaminated clothing and wash it before reuse. Used working clothes should not be worn outside the work area. Street clothing should be stored separately from work clothing. Wash hands and face before breaks and after work and take a shower if necessary. Draw up and observe skin protection programme.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Keep/Store only in original container. Make sure spills can be contained (e.g. sump pallets or kerbed areas). Suitable material for Container: polyethylene. Glass.

Hints on joint storage

Do not store together with: food and feed. pharmaceuticals. Infectious substances. Radioactive substances. Explosive substances. Oxidizing substances. Oxidizing liquids. Organic peroxides. Self-reactive substances and mixtures. Pyrophoric solids. Substances which in contact with water form flammable gases. Ammonium nitrate and preparations containing ammonium nitrate.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Recommended storage temperature: 15-25 °C

Protect against: frost. UV-radiation/sunlight. heat. Humidity. strong alkalis.

7.3. Specific end use(s)

Use as laboratory reagent.

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
-	Molybdenum compounds (as Mo), soluble compounds	-	5		TWA (8 h)	WEL
		-	10		STEL (15 min)	WEL

8.2. Exposure controls


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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 gas/fumes/vapour/spray. Use extractor hood (laboratory). Provide washing facilities at the workplace, provide an eye shower or eyewash bottle and mark them.

Protective and hygiene measures

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, drink, smoke, sniff. Always close containers tightly after the removal of product. When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work.

Eye/face protection

Suitable eye protection: Safety goggles with side protection. In case of increased risk add protective face shield. DIN EN 166

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Wear suitable gloves.

Suitable material:

NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm

FKM (fluororubber). 0,4mm.

Butyl rubber. 0,5mm.

CR (polychloroprenes, Chloroprene rubber).0,5mm.

PVC (Polyvinyl chloride). 0,5mm.

Breakthrough time \geq 8 h

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Check leak tightness/impermeability prior to use.

Skin protection

Use of protective clothing. Suitable protective clothing: Lab apron.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Respiratory protection necessary at: generation/formation of aerosols, exceeding exposure limit values

Suitable respiratory protective equipment: Combination filtering device (EN 14387) Type EP-2/3

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	orange
Odour:	characteristic
pH-Value (at 20 °C):	~2
Changes in the physical state	
Melting point:	~0 °C

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Boiling point or initial boiling point and boiling range:	100 °C
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Flash point:	>100 °C
Sustaining combustion:	Not sustaining combustion

Flammability

Solid/liquid:	not applicable
Gas:	not applicable

Explosive properties

The product is not: Explosive.

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Auto-ignition temperature:	not determined

Self-ignition temperature

Solid:	not applicable
Gas:	not applicable

Decomposition temperature:	not determined
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Oxidizing properties

none

Vapour pressure: (at 20 °C)	6,1 hPa
Vapour pressure: (at 50 °C)	12 hPa

Density (at 20 °C):	~1 g/cm ³
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Water solubility:	miscible.
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Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined
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Viscosity / dynamic:	not determined
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Viscosity / kinematic:	not determined
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Flow time:	not determined
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Relative vapour density:	not determined
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Evaporation rate:	not determined
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Solvent content:	94,34%
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9.2. Other information

Solid content:	not determined
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SECTION 10: Stability and reactivity**10.1. Reactivity**

No information available.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

point of decomposition: >100°C

10.3. Possibility of hazardous reactions

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Exothermic reactions with: Strong alkali. Reducing agents.

10.4. Conditions to avoid

Keep away from heat. Protect from moisture. Protect against direct sunlight.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong. organic materials. metals.

10.6. Hazardous decomposition products

Can be released in case of fire: Phosphorus oxides. Carbon dioxide (CO₂). Carbon monoxide (CO).

SECTION 11: Toxicological information

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

Toxicokinetics, metabolism and distribution

No information available.

Acute toxicity

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

Irritation and corrosivity

Causes skin irritation.

Causes serious eye damage.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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.

Specific effects in experiment on an animal

No information available.

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

The product has not been tested.

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

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.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled.

According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

060313 WASTES FROM INORGANIC CHEMICAL PROCESSES; wastes from the MFSU of salts and their solutions and metallic oxides; solid salts and solutions containing heavy metals; hazardous waste

List of Wastes Code - used product

060313 WASTES FROM INORGANIC CHEMICAL PROCESSES; wastes from the MFSU of salts and their solutions and metallic oxides; solid salts and solutions containing heavy metals; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number: Not restricted
14.2. UN proper shipping name: Not restricted
14.3. Transport hazard class(es): Not restricted
14.4. Packing group: Not restricted

Inland waterways transport (ADN)

14.1. UN number: Not restricted
14.2. UN proper shipping name: Not restricted
14.3. Transport hazard class(es): Not restricted
14.4. Packing group: Not restricted

Marine transport (IMDG)

14.1. UN number: Not restricted
14.2. UN proper shipping name: Not restricted
14.3. Transport hazard class(es): Not restricted
14.4. Packing group: Not restricted

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: Not restricted
14.2. UN proper shipping name: Not restricted
14.3. Transport hazard class(es): Not restricted
14.4. Packing group: Not restricted

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Not restricted

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14.7. Maritime transport in bulk according to IMO instruments

Not restricted

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3

Additional information: H1, P1a, E1, O3, 7, 9, 24, 30

Additional information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. REACH 1907/2006 Appendix XVII: 3

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.

Water hazard class (D): 1 - slightly hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

Rev. 1,00; 06.04.2021; Initial release

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route

CAS Chemical Abstracts Service

DNEL: Derived No Effect Level

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

NOAEC: No observed adverse effect level

NTP: National Toxicology Program

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PNEC: predicted no effect concentration

PBT: Persistent bioaccumulative toxic

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

SARA: Superfund Amendments and Reauthorization Act

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SVHC: substance of very high concern
 TRGS Technische Regeln fuerGefahrstoffe
 TSCA: Toxic Substances Control Act
 VOC: Volatile Organic Compounds
 VwVwS: Verwaltungsvorschrift wassergefaehrdender Stoffe
 WGK: Wassergefaehrungsklasse
 CLP: Classification, labelling and Packaging
 REACH: Registration, Evaluation and Authorization of Chemicals
 GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
 UN: United Nations
 CAS: Chemical Abstracts Service
 DNEL: Derived No Effect Level
 DMEL: Derived Minimal Effect Level
 PNEC: Predicted No Effect Concentration
 ATE: Acute toxicity estimate
 LL50: Lethal loading, 50%
 EL50: Effect loading, 50%
 EC50: Effective Concentration 50%
 ErC50: Effective Concentration 50%, growth rate
 NOEC: No Observed Effect Concentration
 BCF: Bio-concentration factor
 PBT: persistent, bioaccumulative, toxic
 vPvB: very persistent, very bioaccumulative
 ADR: Accord européen sur le transport des marchandises dangereuses par Route
 (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Regulations concerning the international carriage of dangerous goods by rail
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation
 intérieures)
 EmS: Emergency Schedules
 MFAG: Medical First Aid Guide
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships
 IBC: Intermediate Bulk Container
 For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

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

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Dam. 1; H318	Calculation method

Relevant H and EUH statements (number and full text)

H272	May intensify fire; oxidiser.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. Classification according EC regulation 1272/2008 (CLP): -
 Classification procedure:
 Health hazards: Calculation method.
 Environmental hazards: Calculation method.
 Physical hazards: On basis of test data and / or calculated and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product

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named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)