

Safety data sheet

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BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 06.09.2016

Product: **Acrobat® 69% WG**

Version: 1.1

(ID no. 30653581/SDS_CPA_00/EN)

Date of print 06.10.2022

1. Identification

Product identifier

Acrobat® 69% WG

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

Relevant identified uses: crop protection product, fungicide

Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Crop Protection

Telephone: +49 621 60-27777

E-mail address: Produktinformation-Pflanzenschutz@basf.com

Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

Acute Tox. 5 (Inhalation - dust)

Acute Tox. 5 (oral)

| Skin Sens. 1

Repr. 2 (unborn child)

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Aquatic Acute 1
 Aquatic Chronic 1

For the classifications not written out in full in this section the full text can be found in section 16.

Label elements

Globally Harmonized System (GHS)

Pictogram:



Signal Word:

Warning

Hazard Statement:

H333	May be harmful if inhaled.
H303	May be harmful if swallowed.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H361	Suspected of damaging the unborn child.

Precautionary Statements (Prevention):

P201	Obtain special instructions before use.
P261	Avoid breathing dust.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/clothing.

Precautionary Statements (Response):

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P304 + P312	IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.

Precautionary Statements (Storage):

P405	Store locked up.
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Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.
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According to UN GHS criteria

Hazard determining component(s) for labelling: MANCOZEB, DIMETHOMORPH

Other hazardsAccording to UN GHS criteria

See section 12 - Results of PBT and vPvB assessment.

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/Information on Ingredients**Substances**

Not applicable

MixturesChemical nature

crop protection product, fungicide, water dispersible granules

Hazardous ingredients (GHS)

According to UN GHS criteria

| mancozeb (ISO); manganese ethylenebis(dithiocarbamate) (polymeric) complex with zinc salt

Content (W/W): 60 %	Skin Sens. 1
CAS Number: 8018-01-7	Repr. 2 (unborn child)
	Aquatic Acute 1
	H317, H400, H361

dimethomorph (ISO); 4-(3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)acryloyl)morpholine

Content (W/W): 9,2 %	Acute Tox. 5 (oral)
CAS Number: 110488-70-5	Aquatic Acute 2
EC-Number: 404-200-2	Aquatic Chronic 1
INDEX-Number: 613-102-00-0	H303, H401, H410

Sodium dodecyl sulphate

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Content (W/W): < 2 %
CAS Number: 151-21-3
EC-Number: 205-788-1

Flam. Sol. 2
Acute Tox. 4 (Inhalation - dust)
Acute Tox. 4 (oral)
Acute Tox. 5 (dermal)
Skin Corr./Irrit. 2
Eye Dam./Irrit. 1
STOT SE 3 (irr. to respiratory syst.)
Aquatic Acute 2
Aquatic Chronic 3
H228, H318, H315, H313, H332, H302, H335,
H412, H401

Specific concentration limit:

Eye Dam./Irrit. 2: 10 - < 20 %
Eye Dam./Irrit. 1: >= 20 %

Lignosulfonic acid, sodium salt
Content (W/W): < 20 %
CAS Number: 8061-51-6

Ammonium sulphate
Content (W/W): < 10 %
CAS Number: 7783-20-2
EC-Number: 231-984-1
Acute Tox. 5 (oral)
Aquatic Acute 3
H303, H402

For the classifications not written out in full in this section the full text can be found in section 16.

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

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Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
dry powder, foam, water spray

Unsuitable extinguishing media for safety reasons:
carbon dioxide

Special hazards arising from the substance or mixture

Sulphur dioxide, Hydrogen sulphide, carbon monoxide, Hydrogen chloride, carbon disulphide, Carbon dioxide, nitrogen oxides, organochloric compounds
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Special protective equipment:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Avoid contact with the skin, eyes and clothing. Use personal protective clothing. Avoid dust formation.

Environmental precautions

Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

Methods and material for containment and cleaning up

For small amounts: Contain with dust binding material and dispose of.

For large amounts: Sweep/shovel up.

Avoid raising dust. Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

7. Handling and Storage

Precautions for safe handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

Avoid dust formation. Dust can form an explosive mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Protect against moisture. Keep away from heat. Protect from direct sunlight.

Storage stability:

Storage duration: 36 Months

Keep container tightly closed and dry.

Protect from temperatures below: -10 °C

Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.

Protect from temperatures above: 30 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

7783-20-2: Ammonium sulphate

8018-01-7: mancozeb

8061-51-6: Lignosulfonic acid, sodium salt

Exposure controls

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Personal protective equipment

Respiratory protection:

Suitable respiratory protection for higher concentrations or long-term effect: Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	solid, granules
Colour:	beige
Odour:	faint odour, smoky
Odour threshold:	Not determined due to potential health hazard by inhalation.
pH value:	approx. 6 - 8 (water, 1 %(m), 20 °C) (as a dispersion)
Melting temperature:	approx. 192 °C The data given are those of the active ingredient.
boiling temperature:	The product is a non-volatile solid.
Flash point:	not applicable
Evaporation rate:	not applicable
Flammability:	not highly flammable

(Directive 84/449/EEC, A.10)

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Lower explosion limit:

As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.

Upper explosion limit:

As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.

Vapour pressure:

The value has not be determined because of the high melting point.

Density:

approx. 1,85 g/cm³
(20 °C)

(OECD Guideline 109)

Relative vapour density (air):

not applicable

Solubility in water:

dispersible

Information on: dimethomorph (ISO); 4-(3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)acryloyl)morpholine

*Partitioning coefficient n-octanol/water (log Kow): 2,63 - 2,73
(20 °C)*

Information on: mancozeb (ISO); manganese ethylenebis(dithiocarbamate) (polymeric) complex with zinc salt

*Partitioning coefficient n-octanol/water (log Kow): 0,26
(20 °C)*

Self ignition:

not self-igniting

(Method: Directive 92/69/EEC, A.16)

Thermal decomposition:

100 °C, 30 kJ/kg (DSC (OECD 113))
(onset temperature)

190 °C, 150 kJ/kg (DSC (OECD 113))
(onset temperature)

Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.

Viscosity, dynamic:

not applicable, the product is a solid

Explosion hazard:

Based on the chemical structure there is no indicating of explosive properties.

(Directive 92/69/EEC, A.14)

Fire promoting properties:

Based on its structural properties the product is not classified as oxidizing.

(Directive 92/69/EEC, A.17)

Other information

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Bulk density: 630 - 660 kg/m³
(20 °C)

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

See MSDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:
strong bases, strong acids, strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Experimental/calculated data:
LD50 rat (oral): 2.770 mg/kg (OECD Guideline 401)

LC50 rat (by inhalation): > 6,4 mg/l 4 h
Mortality was observed. Tested as dust aerosol.

LD50 rat (dermal): > 2.000 mg/kg (OECD Guideline 402)

Irritation

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Assessment of irritating effects:

Not irritating to the skin. Not irritating to the eyes. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

Sensitization after skin contact possible. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Experimental/calculated data:

modified Buehler test guinea pig: Caused skin sensitization in animal studies.

Germ cell mutagenicity

Assessment of mutagenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: mancozeb (ISO); manganese ethylenebis(dithiocarbamate) (polymeric) complex with zinc salt

Assessment of carcinogenicity:

In long-term studies in rats the substance induced thyroid tumors.

Reproductive toxicity

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect. The product has not been tested. The statement has been derived from the properties of the individual components.

Developmental toxicity

Assessment of teratogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components.

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Information on: mancozeb (ISO); manganese ethylenebis(dithiocarbamate) (polymeric) complex with zinc salt

Assessment of teratogenicity:

EU-classification Possible risk of harm to the unborn child.

Information on: Sodium dodecyl sulphate

Assessment of teratogenicity:

The substance did not cause malformations in animal studies; however, toxicity to development was observed at high doses that were toxic to the parental animals. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Remarks: The product has not been tested. The statement has been derived from the properties of the individual components.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components. No substance-specific organotoxicity was observed after repeated administration to animals.

Aspiration hazard

The product has not been tested. The statement has been derived from the properties of the individual components.

No aspiration hazard expected.

Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

Very toxic to aquatic life with long lasting effects.

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Toxicity to fish:

LC50 (96 h) 1,48 mg/l, *Oncorhynchus mykiss*

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Aquatic invertebrates:

EC50 (48 h) 0,83 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Aquatic plants:

EC50 (72 h) 0,136 mg/l, Selenastrum capricornutum

No observed effect concentration (72 h) 0,0173 mg/l, Pseudokirchneriella subcapitata

Chronic toxicity to fish:

No observed effect concentration (28 d) 0,528 mg/l, Oncorhynchus mykiss

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (21 d) 0,0637 mg/l, Daphnia magna

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: dimethomorph (ISO); 4-(3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)acryloyl)morpholine

Assessment biodegradation and elimination (H₂O):

Not readily biodegradable (by OECD criteria).

Information on: mancozeb (ISO); manganese ethylenebis(dithiocarbamate) (polymeric) complex with zinc salt

Assessment biodegradation and elimination (H₂O):

According to OECD criteria the product is not readily biodegradable but inherently biodegradable.

Bioaccumulative potential

Assessment bioaccumulation potential:

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: mancozeb (ISO); manganese ethylenebis(dithiocarbamate) (polymeric) complex with zinc salt

Assessment bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Information on: dimethomorph (ISO); 4-(3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)acryloyl)morpholine

Bioaccumulation potential:

No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

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Mobility in soil

Assessment transport between environmental compartments:

Adsorption in soil: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: mancozeb (ISO); manganese ethylenebis(dithiocarbamate) (polymeric) complex with zinc salt

Assessment transport between environmental compartments:

Adsorption in soil: Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Information on: dimethomorph (ISO); 4-(3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)acryloyl)morpholine

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface.

Adsorption in soil: Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Results of PBT and vPvB assessment

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

Other adverse effects

The product does not contain substances that are listed in the Montreal Protocol on substances that deplete the ozone layer.

Additional information

Other ecotoxicological advice:

Do not discharge product into the environment without control.

13. Disposal Considerations

Waste treatment methods

Must be sent to a suitable incineration plant, observing local regulations.

Contaminated packaging:

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

14. Transport Information

Land transport

ADR

UN number: UN3077
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(contains MANCOZEB, DIMETHOMORPH)
Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Special precautions for user: Tunnel code: E

RID

UN number: UN3077
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(contains MANCOZEB, DIMETHOMORPH)
Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

Inland waterway transport

ADN

UN number: UN3077
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(contains MANCOZEB, DIMETHOMORPH)
Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

UN number: UN 3077
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
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Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
	Marine pollutant: YES
Special precautions for user:	None known

Air transport

IATA/ICAO

UN number:	UN 3077
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains MANCOZEB, DIMETHOMORPH)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known

UN number

See corresponding entries for "UN number" for the respective regulations in the tables above.

UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

Transport in bulk according to Annex II of MARPOL and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated

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Ship Type:

Not evaluated

15. Regulatory Information

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

To avoid risks to man and the environment, comply with the instructions for use.

16. Other Information

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
Skin Sens.	Skin sensitization
Repr.	Reproductive toxicity
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Flam. Sol.	Flammable solids
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
STOT SE	Specific target organ toxicity — single exposure
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H361	Suspected of damaging the unborn child.
H303	May be harmful if swallowed.
H401	Toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H228	Flammable solid.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H313	May be harmful in contact with skin.
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
H402	Harmful to aquatic life.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.