



Safety Data Sheet

according to 29 CFR 1910.1200(g)

DUO FILL 400

Revision date: 16.05.2019

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1. Identification

Product identifier

DUO FILL 400

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet

Company name:	HAGO PU GmbH
Street:	Bodenseestr. 217
Place:	D-81243 München
Telephone:	+49 (0)89 897702-0
e-mail:	info@hago.de
Internet:	www.hago.de

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

Flammable aerosols: Flam. Aerosol 1
Gases under pressure: Compressed gas
Acute toxicity: Acute Tox. 4 (inhalation)
Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Irrit. 2A
Respiratory or skin sensitization: Resp. Sens. 1
Respiratory or skin sensitization: Skin Sens. 1
Carcinogenicity: Carc. 2
Specific target organ toxicity single exposure: STOT SE 3 (respiratory tract irritation)
Specific target organ toxicity repeated or prolonged exposure: STOT RE 2

Label elements

29 CFR Part 1910.1200

Signal word: Danger

Pictograms:



Hazard statements

Extremely flammable aerosol
Contains gas under pressure; may explode if heated
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation
Harmful if inhaled
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause respiratory irritation
Suspected of causing cancer
May cause damage to organs through prolonged or repeated exposure

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.

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Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a poison center/doctor.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Special labelling of certain mixtures

Contains fluorinated greenhouse gases covered by the Kyoto Protocol (R152a).

Additional advice on labelling

Contains the following fluorinated greenhouse gas (chemical name): 152a

Hazards not otherwise classified

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

3. Composition/information on ingredients**Mixtures****Hazardous components**

CAS No	Components	Quantity
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues	29.07 %
13674-84-5	Tris (2-Chloroisopropyl) Phosphate	15.38 %
86675-46-9	Halogenated Polyether polyole	1.184 %

4. First-aid measures**Description of first aid measures****General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Provide fresh air.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap.

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.

After ingestion

Do NOT induce vomiting. Call a physician immediately.

Most important symptoms and effects, both acute and delayed

May cause sensitization by inhalation and skin contact.
Danger of sticking eyes and skin due to curing foam.

Indication of any immediate medical attention and special treatment needed

First Aid, decontamination, treatment of symptoms.



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5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂), Foam, Extinguishing powder

Unsuitable extinguishing media

Full water jet

Specific hazards arising from the chemical

In case of fire may be liberated: Nitrogen oxides (NO_x), Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon dioxide (CO₂), Carbon monoxide

Special protective equipment and precautions for fire-fighters

In case of fire and/or explosion do not breathe fumes. Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Use water spray/stream to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Remove all sources of ignition.
Avoid contact with skin, eyes and clothes. Do not breathe vapor or spray.

Environmental precautions

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

Methods and material for containment and cleaning up

Provide adequate ventilation. Allow stiffening. Take up mechanically.

Reference to other sections

Safe handling: see section 7
Personal protection equipment (PPE): see section 8
Disposal: see section 13

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Provide adequate ventilation as well as local exhaust at critical locations. Do not use in enclosed rooms.

Advice on protection against fire and explosion

Pressurised container: May burst if heated. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Vapors may form explosive mixtures with air. Take precautionary measures against static discharges.

Further information on handling

Do not activate container at temperatures > 35 °C. Cool down in a water bath! Danger of bursting container.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in a cool, well-ventilated place.

Hints on joint storage

Do not store together with: Oxidising agent

Further information on storage conditions

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
15 - 23 °C. Storage above 23 °C will reduce shelf life significantly, depending on temperature and duration.



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8. Exposure controls/personal protection

Control parameters

Exposure controls

Appropriate engineering controls

Personal protective equipment has to be chosen in accordance with workplace specific conditions, e. g. concentration of the product. Chemical resistance has to be clarified with the supplier of protective equipment.

Protective and hygiene measures

Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff. Remove contaminated, saturated clothing immediately.

Eye/face protection

Wear eye/face protection.

Hand protection

Suitable material: Butyl caoutchouc (butyl rubber)

Thickness of the glove material 0,4 mm

Breakthrough time (maximum wearing time) > 480 min.

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.

Skin protection

Wear anti-static footwear and clothing

Respiratory protection

Respiratory protection necessary at: insufficient ventilation

Suitable respiratory protection apparatus: Combination filtering device (EN 14387)

Environmental exposure controls

See section 7. No additional measures necessary.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:

Color: light green
Odor: characteristic

pH-Value: not determined

Changes in the physical state

Melting point/freezing point: not applicable

Initial boiling point and boiling range: not applicable

Flash point: not applicable

Flammability

Solid: not applicable

Gas: not applicable

Explosive properties

In use, may form flammable/explosive vapor-air mixture.

Lower explosion limits: 0,4 vol. %

Upper explosion limits: 17,35 vol. %

Ignition temperature: > 400 °C

Auto-ignition temperature

Solid: not applicable

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Gas:	not applicable
Decomposition temperature:	not determined
Oxidizing properties	
Not oxidising.	
Vapor pressure:	5000 - 6000 hPa
Density:	not determined
Water solubility:	practically insoluble
Solubility in other solvents	
not determined	
Partition coefficient:	not determined
Viscosity / dynamic:	not applicable
Viscosity / kinematic:	not applicable
Vapor density:	not determined
Evaporation rate:	not determined

Other information

none/none

10. Stability and reactivity**Reactivity**

There are no data available on the mixture itself.

Chemical stability

Stability: Stable

The product is stable under storage at normal ambient temperatures.

Possibility of hazardous reactions

Hazardous reactions: May occur

Exothermic reaction with: Oxidising agent, strong
In use, may form flammable/explosive vapor-air mixture.**Conditions to avoid**

Do not expose to temperatures above 50 °C. Heating causes rise in pressure with risk of bursting.

Incompatible materials

Oxidising agent, strong

Hazardous decomposition productsNitrogen oxides (NO_x), Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon dioxide (CO₂), Carbon monoxide**11. Toxicological information****Information on toxicological effects****Toxicokinetics, metabolism and distribution**

There are no data available on the mixture itself.

Acute toxicity

Harmful if inhaled

ATEmix calculated

ATE (inhalation aerosol) 4,263 mg/l

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CAS No	Components				
	Exposure route	Dose	Species	Source	Method
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues				
	oral	LD50 >10000 mg/kg	Rat		
	dermal	LD50 > 10000 mg/kg	Rabbit		
	inhalation vapour	ATE 11 mg/l			
13674-84-5	Tris (2-Chloroisopropyl) Phosphate				
	oral	LD50 630 - 2000 mg/kg	Rat	Manufacturer	
	dermal	LD50 > 5000 mg/kg	Rabbit	Manufacturer	OECD 402
86675-46-9	Halogenated Polyether polyole				
	oral	LD50 917 mg/kg	Rat		

Irritation and corrosivity

- Causes skin irritation
- Causes serious eye irritation

Sensitizing effects

- May cause allergy or asthma symptoms or breathing difficulties if inhaled (Diphenylmethanediisocyanate, isomers and homologues)
- May cause an allergic skin reaction (Diphenylmethanediisocyanate, isomers and homologues)
- Does not apply to the cured foam.

Carcinogenic/mutagenic/toxic effects for reproduction

- Suspected of causing cancer (Diphenylmethanediisocyanate, isomers and homologues)
- Germ cell mutagenicity: Based on available data, the classification criteria are not met.
- Reproductive toxicity: Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - single exposure

- May cause respiratory irritation (Diphenylmethanediisocyanate, isomers and homologues)

Specific target organ toxicity (STOT) - repeated exposure

- May cause damage to organs through prolonged or repeated exposure (Diphenylmethanediisocyanate, isomers and homologues)

Carcinogenicity (OSHA):

No ingredient of this mixture is listed.

Carcinogenicity (IARC):

Polymethylene polyphenyl isocyanate (CAS 9016-87-9) is listed in group 3.

Carcinogenicity (NTP):

No ingredient of this mixture is listed.

Aspiration hazard

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

12. Ecological information**Ecotoxicity**

- There are no data available on the mixture itself.

Persistence and degradability

- There are no data available on the mixture itself.

Bioaccumulative potential

- There are no data available on the mixture itself.

Mobility in soil

- There are no data available on the mixture itself.

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Other adverse effects

152a: Ozone depletion potential (ODP): 0; 124

13. Disposal considerations**Waste treatment methods****Advice on disposal**

Dispose of waste according to applicable legislation.

14. Transport information**US DOT 49 CFR 172.101**

UN/ID number: UN 1950
Proper shipping name: AEROSOLS
Transport hazard class(es): 2.1
Packing group: -
Hazard label: 2.1

Marine transport (IMDG)

UN number: UN 1950
UN proper shipping name: AEROSOLS
Transport hazard class(es): 2.1
Packing group: -
Hazard label: 2.1



Marine pollutant: -
Limited quantity: 1000 mL
Excepted quantity: E0
EmS: F-D, S-U

Air transport (ICAO-TI/IATA-DGR)

UN number: UN 1950
UN proper shipping name: AEROSOLS
Transport hazard class(es): 2.1
Packing group: -
Hazard label: 2.1



Limited quantity Passenger: 30 kg G
Passenger LQ: Y203
Excepted quantity: E0
IATA-packing instructions - Passenger: 203
IATA-max. quantity - Passenger: 75 kg
IATA-packing instructions - Cargo: 203
IATA-max. quantity - Cargo: 150 kg

Environmental hazards**ENVIRONMENTALLY HAZARDOUS:** no



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Special precautions for user

see chapter 6 - 8

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

not relevant

15. Regulatory information

U.S. Regulations

National Inventory TSCA

Substance/product listed in the following inventories: TSCA

National regulatory information

SARA Section 311/312 Hazards:

Polymeric diphenylmethane diisocyanate (9016-87-9): Delayed (chronic) health hazard, Immediate (acute) health hazard

Tris (2-Chloroisopropyl) Phosphate (13674-84-5): Immediate (acute) health hazard

Halogenated Polyether polyole (86675-46-9): Immediate (acute) health hazard

SARA Section 313 Toxic release inventory:

Polymeric diphenylmethane diisocyanate (9016-87-9): De minimis limit = 1.0 %, Reportable threshold = Standard

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

WARNING: This product can expose you to chemicals including Ethylene glycol (ingested) (developmental), which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Additional information

CAS No. 86675-46-9 registered in TSCA as CAS No. 68441-62-3.

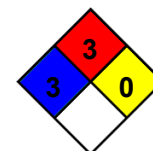
16. Other information

Hazardous Materials Information Label (HMIS)

Health:	3
Flammability:	3
Physical Hazard:	0
Personal Protection:	X

NFPA Hazard Ratings

Health:	3
Flammability:	3
Reactivity:	0
Unique Hazard:	



Changes

Revision date: 16.05.2019

Revision No: 1,05

15.1 TSCA Inventory status updated.

Other data

Data sources: Data arise from reference works and literature.

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 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



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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.)