

Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 91317	QUANTOFIX Chlorine	Page: 1/12
Printing Date: 20.07.2023	Date of Issue: 12.05.2023	Version: 3.2.2.4

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

1.1 Product Identifier / Product Name

REF	91317
Product Name	QUANTOFIX Chlorine
1 x 100 test strips	
1 x 7 g Cl ₂ -1	
1 x 25 mL Cl ₂ -2	
UFI: UVAV-C33A-Q20N-DFQ5	

1.2 Relevant identified Uses of the Substance or Mixture and Uses advised against

Relevant identified uses
 Product for analytical use.
 Exposure Scenario Classification according REACH, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0
 The exposure scenario is integrated into sections 1-16.
 If CE labelling: Product for in-vitro-diagnostic use (IVD) or Accessory for medical use
Uses advised against
 not described

1.3 Details of the Supplier and of the Safety Data Sheet

Manufactured by:
 MACHEREY-NAGEL GmbH & Co. KG
 Valencienner Str. 11, 52355 Düren, Germany
 Phone: +49 2421 969 0

E-mail: sds@mn-net.com (msds@mn-net.com)

1.4 Emergency Telephone Number

Outside Germany (DE): Call your regional Poisons Information Service or call local Life Saving Service.
 USA: American Association Of Poison Control Centers
 Rockville, MD 20857. tel. 1-800-222-1222, <<https://www.poisonhelp.org>>
 DE: Gemeinsames Giftinformationszentrum (GGIZ) 99089 Erfurt tel. +49 361 730 730
 <<https://www.ggiz-erfurt.de>>
 You find our current versions of SDS in Internet: <<http://www.mn-net.com/SDS>>

SECTION 2: Hazard(s) Identification

2.0 Classification of the complete Product



GHS02 GHS07

Signal Word WARNING

Hazard Identification	Hazard Classes/Categories
H226	Flam. Liq. 3
H302	Acute Tox. 4 oral
H312	Acute Tox. 4 derm.
H332	Acute Tox. 4 inh.
EUH031	-

2.1 Classification of the substance or mixture

25 mL Cl₂-2



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GHS02



GHS07

Signal Word

WARNING

Hazard Identification

Hazard Classes/Categories

EUH031
H226
H302
H312
H332

-
Flam. Liq. 3
Acute Tox. 4 oral
Acute Tox. 4 derm.
Acute Tox. 4 inh.

100 test strips

Signal Word

Do not need labelling as hazardous

No Hazard Class

-

7 g Cl₂-1

Signal Word

Do not need labelling as hazardous

No Hazard Class

-

List of H phrases: see section 16.2

2.2 Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

According the implementation of GHS immediate packages only must be labelled with product identifier(s), GHS symbol(s), signal word, manufacturer name and phone number (OSHA's interpretation of HCS 2012). Harmful chemicals/mixtures with signal word: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2) / **until 100 mL** (Canada WHMIS 2015). This labelling exemption does not apply to U.S.A.

25 mL Cl₂-2



GHS02



GHS07

Signal Word: WARNING

100 test strips

Do not need labelling as hazardous
Signal Word: -

7 g Cl₂-1

Do not need labelling as hazardous
Signal Word: -

Label elements of the complete product



GHS02



GHS07

Signal Word: WARNING

2.3 Other Hazards

Possible Hazards from physicochemical Properties



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Flammable properties.

Information pertaining to particular Risks to Human and possible Symptoms

Cause after oral intake, inhalation of vapors/dust, impairments of health when ingested in small quantities.

Information pertaining to particular Risks to the Environment

Possible endocrine disrupting effects

data not available

Other Hazards

Contains an odor intensive reagent.

SECTION 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

25 mL Cl₂-2

Substance name: *potassium cyanide*
CAS No.: 151-50-8

Substance rating: H300, Acute Tox. 1 oral, H310, Acute Tox. 1 derm., H330, Acute Tox. 1 inh., H410, Aquatic Chronic 1, EUH032, not defined
Chemical Formula: KCN
Synonyms (de): Cyankali
REACH Reg. No.: 01-2119486407-29-xxxx
EC No.: 205-792-3
Concentration: 0,1 - <1 %
The classification refers to the weight percentage of the metal (according to CLP regulation 2008/1272/EG Annex VI, 1.1.3.2 Note 1)
acc. GHS: H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H332, Acute Tox. 4 inh., EUH031

Indice No.: 006-007-00-5

Correlation Factor: x 0.40 (= %CN -)

Substance name: *pyridine*
CAS No.: 110-86-1

Substance rating: H225, Flam. Liq. 2, H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H332, Acute Tox. 4 inh.
Chemical Formula: C₅H₅N
Synonyms (de): Azin, Azabenzol
REACH Reg. No.: 01-2119493105-40-xxxx
EC No.: 203-809-9
Concentration: 32 - <44 %
acc. GHS: H226, Flam. Liq. 3, H332, Acute Tox. 4 inh.

Indice No.: 613-002-00-7

100 test strips

Substance name: *PVC foil (CAS 9002-86-2)*
CAS No.: -

Substance rating: No criteria for classification or naming of chemical is not required.
Concentration: 95 - <100 %
acc. GHS: The criteria for classification are not fulfilled.

Substance name: *cellulose paper*
CAS No.: 9004-34-6

Substance rating: No criteria for classification or naming of chemical is not required.
Chemical Formula: (C₆H₁₀O₅)_n
REACH Reg. No.: exempt, Annex IV
EC No.: 232-674-9
Concentration: 1 - <10 %
acc. GHS: The criteria for classification are not fulfilled.

Substance name: *chemicals/mixture until 1%*
CAS No.: -

Substance rating: No criteria for classification or naming of chemical is not required.
Concentration: 0,1 - <1 %
acc. GHS: The criteria for classification are not fulfilled.



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7 g Cl₂-1

Substance name: *phosphates (buffer salts)*
CAS No.: -

Substance rating: No criteria for classification or naming of chemical is not required.
Chemical Formula: $K/Na_{1-3}H_{2-0}PO_4$
Concentration: 75 - <100 %
acc. GHS: The criteria for classification are not fulfilled.

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%. List of Hazard and Precaution phrases: see section 16.2.

SECTION 4: First-Aid Measures

4.1 Description of First-Aid Measures

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice.

4.1.1 After SKIN Contact

Remove dust with wetted tissue. Remove contaminated clothing. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.

4.1.2 After EYE Contact

Rub dust with teardrops from eyes or: After contact with the eyes rinse thoroughly under running water with the eyelid wide open with eye washing bottle, eye douche or running water (protect intact eye).

4.1.3 After INHALATION of Vapors

After inhalation of foam or vapor fresh air should be inhaled. Keep airways free. After inhalation of dust fresh air should be inhaled.

4.1.4 After ORAL Intake

After oral intake lots of water should be drunk after it has been ingested.

4.2 Most important Symptoms and Effects, both acute and delayed

4.3 Indication of any immediate Medical Attention and Special Treatment needed

No additionally recommendations. ---

SECTION 5: Fire-Fighting Measures

5.1 Extinguishable Media

5.1.1 Suitable extinguishing media

Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used. Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.

5.1.2 Unsuitable extinguishing media

data not available

5.2 Special Hazards arising from the Substance or Mixture

WARNING: Flammable. May form explosive vapor-air mixtures. Formation of hazardous and caustic vapor-air mixtures possible.

5.3 Advice for Firefighters

No, for listed product. Product package burns like paper or plastic.

5.4 Additional Information



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SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedure

Regular staff training is necessary.

6.2 Environmental Precautions

not necessary

6.3 Methods and Material for Containment and Cleaning up

Bind any escaping liquid with inert absorbent.
Collect small amounts of leaked liquid and flush with water into sewer.

6.4 Reference to other Sections

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

Handling in accordance with the test instruction, that comes with the product.

7.2 Conditions for Safe Storage, including any Incompatibilities

The original product package allows a safe storage. Storage class (German chemical industry): see chapter 12.1

Storage class (VCI): 3

Water hazard class (DE): 3

7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage.

7.3 Specific End Use(s)

Product for analytical use.
If CE labelling: Product for in-vitro-diagnostic use (IVD) or Accessory for medical use

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

25 mL Cl₂-2

Chemical: *potassium cyanide*

CAS No.: 151-50-8

NIOSH: not listed

NIOSH STEL: skin, HCN 4.7 ppm / 5 mg/m³

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: EPCRA/SARA Section 302 Extremely Hazardous Substances Yes (TPQ = 100 lbs) n/a; TWA_{skin}, HCN
10 ppm / 11 mg/m³

EU value: CN: [TWA] 1 / [STEL] 5 mg/m³

Chemical: *pyridine*

CAS No.: 110-86-1

PNEC (fresh water): 300 µg/L
PNEC = Predicted No Effect Concentration

NIOSH: [TWA] 5 ppm / 15 mg/m³

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: [TWA] 5 ppm / 15 mg/m³

EU value: [TWA] 5 ppm / 15 mg/m³

100 test strips

Chemical: *PVC foil (CAS 9002-86-2)*

CAS No.: -

Chemical: *cellulose paper*

CAS No.: 9004-34-6

NIOSH: TWA 10 (total) / 5 (resp) mg/m³

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: TWA 15 (total) / 5 (resp) mg/m³

Chemical: *chemicals/mixture until 1%*

CAS No.: -

7 g Cl₂-1

Chemical: *phosphates (buffer salts)*

CAS No.: -



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8.2 Exposure Controls

The highest level of cleanliness must be maintained at the workplace.

8.2.1 Respiratory Protection

No additional recommendations.

8.2.2 Skin protection / Hand protection

Yes, gloves (permeation time >30 min - level 2), consist of PVC, Natural latex, Neopren, or Nitril. Use for short times chemical resistant Latex gloves f.ex. with code EN 374-3 level 1.

8.2.3 Eye / Face Protection

Yes, Splash Goggles.

8.2.4 Skin Protection

Not necessary.

8.2.5 Hygiene Measures

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

8.2.6 Thermal hazards

data not available

8.3 Limitation and monitoring of environmental exposure

Do not release product into environment.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

25 mL Cl₂-2

a) State of aggregation:	liquid
b) Color:	colorless
c) Odor:	like pyridine
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	ca. 35 °C
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	8-9
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	0-100 %
n) Partition Coefficient (o/w):	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	0,99 g/mL
q) Relative Vapor Density (air=1):	data not available
r) Particle Size:	data not available

100 test strips

a) State of aggregation:	solid
b) Color:	colored
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	data not available
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	data not available
n) Partition Coefficient (o/w):	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	data not available
q) Relative Vapor Density (air=1):	data not available
r) Particle Size:	data not available



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7 g Cl₂-1

a) State of aggregation:	powder (solid)
b) Color:	colorless
c) Odor:	odorless
d) Melting Point:	data not available
e) Boiling Point:	data not available
f) Flammability:	data not available
g) Explosive Limits (lower / upper):	data not available
h) Flash Point:	data not available
i) Autoignition Temperature:	data not available
j) Decomposition Temperature:	data not available
k) pH Value:	8-9
l) Kinematic Viscosity:	data not available
m) Soluble in Water:	0-40 %
n) Partition Coefficient (o/w) :	data not available
o) Vapor Pressure (68°F):	data not available
p) Specific Gravity:	data not available
q) Relative Vapor Density (air=1) :	data not available
r) Particle Size:	data not available

9.2 Further Information

Properties relevant to substance groups

SECTION 10: Stability and Reactivity

10.1 Reactivity

No further data available.

10.2 Chemical Stability

no known instability.

10.3 Possibility of Hazardous Reactions

Possibility: &H:EUH031& No further data available.

10.4 Conditions to avoid

10.5 Incompatible Materials

10.6 Hazardous Decomposition Products

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

Following information is valid for pure chemicals. Quantitative data on the toxicity of this product are not available.

25 mL Cl₂-2

Chemical:	<i>potassium cyanide</i>	CAS No.:	151-50-8
TSCA Inventory:	listed	California Prop. 65 List:	not listed
Target Organs:	act on blood or hemato-poietic system: decrease hemoglobin function; deprive body tissues of oxygen		
Symptoms:	cyanosis; loss of consciousness		
Canada CEPA 1999:	DSL Yes		
LD50 orl rat :	5 mg/kg		
LC ₅₀ orl hmn :	2,86 mg/kg		
LD50 orl mus :	8,5 mg/kg		
LD50 scu rat :	7,8 mg/kg		



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Acute Effects: Cause after oral intake, inhalation of vapors/dust, skin contact, impairments of health when ingested in small quantities.

Chemical:	<i>pyridine</i>	CAS No.:	110-86-1
TSCA Inventory:	listed	California Prop. 65 List:	listed cancer
Exposure Routes:	inhalation, skin absorption, ingestion, skin and/or eye contact		
Target Organs:	Eyes, skin, central nervous system, liver, kidneys, gastrointestinal tract,		
Symptoms:	irritation eyes; headache, anxiety, dizziness, insomnia; nausea, anorexia; dermatitis; liver, kidney damage		
LD50 orl rat :	800-1600 mg/kg		
LC _{Lo} ihl rat :	4900 ppm/4H		
LC _{Lo} orl gpg :	4000 mg/kg		
LC _{Lo} orl hmn :	500 mg/kg		
LC50 ihl rat :	15,852 mg/L/4H		

Acute Effects: Cause after skin contact, impairments of health when ingested in small quantities.

100 test strips

Chemical:	<i>PVC foil (CAS 9002-86-2)</i>	CAS No.:	-
TSCA Inventory:	listed		
Chemical:	<i>cellulose paper</i>	CAS No.:	9004-34-6
TSCA Inventory:	listed	California Prop. 65 List:	not listed
Exposure Routes:	inhalation, skin and/or eye contact		
Target Organs:	Eyes, skin, respiratory system		
Symptoms:	irritation eyes, skin, mucous membrane		
Canada CEPA 1999:	DSL yes		
LD50 orl rat :	> 5000 mg/kg		
LC50 ihl rat :	> 5,800 mg/L/4H		
Chemical:	<i>chemicals/mixture until 1%</i>	CAS No.:	-
TSCA Inventory:	all listed, <1%		
7 g Cl₂-1			
Chemical:	<i>phosphates (buffer salts)</i>	CAS No.:	-
TSCA Inventory:	all listed		
LD50 orl rat :	> 2000 mg/kg		

11.2 Other Hazards

Possible endocrine disrupting effects

data not available

Other Information

no additional data available

SECTION 12: Ecological Information

12.1 Toxicity

Following information is valid for pure chemicals.

25 mL Cl₂-2

Chemical:	<i>potassium cyanide</i>	CAS No.:	151-50-8
LC50 daphnia magna/48h :	2 48h ; 0.53 24h mg/L		
LC50 fish/96h :	0.45 mg/L		
EC50 daphnia/48h :	0.041 mg/L		
IC50 scenedesmus quadricauda/72h :	0.03 8d mg/L		
EC10 pseudomonas putita/16h :	EC10/16h: 0.001 mg/L		

Chemical:	<i>pyridine</i>	CAS No.:	110-86-1
PNEC (fresh water) :	300 µg/L		
PNEC = Predicted No Effect Concentration			
LC50 fish/96h :	[EC50 4h] 560-1000 mg/L		
EC50 daphnia/48h :	320 mg/L		
IC50 scenedesmus quadricauda/72h :	IC5/7d: 120 mg/L		
EC10 pseudomonas putita/16h :	[EC50 72h] 320 mg/L mg/L		
Partition Coefficient (o/w) :	0,64		



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100 test strips

Chemical:	<i>PVC foil (CAS 9002-86-2)</i>	CAS No.: -
Chemical:	<i>cellulose paper</i>	CAS No.: 9004-34-6
Chemical:	<i>chemicals/mixture until 1%</i>	CAS No.: -

7 g Cl₂-1

Chemical:	<i>phosphates (buffer salts)</i>	CAS No.: -
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12.2 Persistence and Degradability

not necessary

12.3 Bioaccumulative Potential

not necessary

12.4 Mobility in Soil

not necessary

12.5 Results of PBT and vPvB Assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

12.6 Endocrine disrupting properties

data not available

12.7 Other Adverse Effects

no additional data available

SECTION 13: Disposal Considerations

Do not collect in acidic waste. May form toxic gases.

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (RCRA Code D002/D003, EU waste code number 16 05 06).

13.1 Waste Treatment Methods

SECTION 14: Transport Information

14.1. UN/NA: 1993

14.2. Proper Shipping Name: Flammable liquid, n.o.s. (pyridine mixture)

14.3. Hazard Class: 3

14.4. Packing Group: III

Transportation by Road

Classification code:	F1	Tunnel restriction code:	D/E
Limited Quantity:	5 L	Special instructions:	640E
Excepted Quantity:	E 1		

Air transport IATA DGR

Limited Quantity:	PAX: 355	max. quantity PAX:	60 L
	CAO: 366	max. quantity CAO:	220 L

Excepted Quantity: E 1

Maritime transport IMDG

EmS:	F-E, S-E	Staukategorie:	A
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14.5 Environmental Hazards

none

14.6 Special Precautions for User

not necessary



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14.7 Carriage of bulk cargo by sea in accordance with IMO instruments

Not applicable.

SECTION 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

U.S. Federal Regulations

OSHA "A Guide to The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"

<https://www.osha.gov/dsg/hazcom/ghs.html>

29 CFR 1910.1200 Hazard communication.

NIOSH Pocket Guide to Chemical Hazards

NIOSH Workplace Safety & Health Topics

TSCA Inventory

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

Canada

Canada CEPA 1999 - Domestic Substances List (DSL), List of Toxic Substances (Schedule 1)

MN Leaflet/User manual, also see www.mn-net.com

15.2 Chemical Safety Assessment

not necessary for these small amounts

SECTION 16: Other Information

16.1 Changes compared to the last version

Between versions 3.2.2.4 and 2.2.2.2 following changes were applied: -0 product data corrected - 2 substance data corrected

16.2 List of Hazard and Precaution Phrases

16.2.1 List of relevant H Phrases

H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
EUH031	Contact with acids liberates toxic gas.

16.2.2 List of relevant P Phrases

16.3 Recommended Restriction on Use

Only for Professional User.

An individual package of this product or test kit has a moderate hazardous potential.

16.4 Sources of Key Data

KÜHN, BIRETT, Leaflets on hazardous materials, 2021

Directive 1999/92/EG Minimum requirements to improve the safety and health protection of workers at risk from potentially explosive atmospheres

SUVA .CH, limit values in the air at work 2009, revised on 01/2009

Regulation 790/2009/EU, adaptation of Regulation 1272/2008/EU to technical and scientific progress (1st ATP)

Regulation 453/2010/EU, adaptation of the REACH regulation 1907/2006/EG

Regulation 487/2013/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (4th ATP)

Regulation 1221/2015/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (7th ATP)

Regulation 776/2017/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (10th ATP)

Regulation 669/2018/EU, adaptation of Regulation 1272/2008/EC to technical and scientific progressText (11th ATP)

Regulation 1480/2018/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (13th ATP)

Regulation 521/2019/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (12th ATP)

TRGS 900, German rules of technology on limit values in the air at work, as of 03/2019

Regulation 217/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (14th ATP)

Regulation 878/2020/EU, adaptation of Annex II of the REACH regulation 1907/2006/EG

Regulation 1182/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (15th ATP)

Regulation 643/2021/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (16th ATP)

Regulation 849/2021/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (17th ATP)

Regulation 692/2022/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (18th ATP)

revisions/updates

Reason for revision: 2014-02 Corrected structure of the sections according to Regulation 453/2010/EU, if necessary

2014-04 adjustment according Regulation 487/2013/EU

2016-03 adjustment according Regulation 1221/2015/EU



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Safety Data Sheet

SDS acc. Hazard Communication Standard

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*2017-11 adjustment according the ECHA registration dossier
2022-11 adjustment according Regulation 878/2020/EU*

16.5 Further Information

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16.6 Legend / Abbreviations

- acc: according
- ADR: Convention concerning the International Carriage of Dangerous Goods by Road
- Act: acute
- BAT: biological workplace tolerance value
- CAO: Cargo Aircraft Only
- Carc: carcinogen
- CAS: Chemical Abstracts Service
- CLP: Classification, Labelling and Packaging regulation
- CMR: carcinogen, mutagen, reproduction toxic
- Corr: corrosive
- COD: chemical oxigen demand
- CSCL: Chemical Substance Control Law (Jp)
- Dam: damage
- DNEL: Derived No-Effect Level (for workers)
- derm: dermal
- dog: dog
- EC10: Concentration causing a toxic effect in 10% of the test organisms
- EC: European Community
- EC-Nr: Substance number of the EC substance inventory
- EmS: Guide to accident management measures on ships
- EU: European Union
- fish: fish (not specified)
- GHS: Global Harmonized System of Classification and Labeling of Chemicals
- gpg: guinea pig
- ICAO: International Civil Aviation Organization
- ihl: inhaled
- IMDG: International Maritime Dangerous Goods Code
- intrav: intravenous
- ipt: intraperitoneal
- ISHL: Industrial Safety and Health Law (Jp)
- LC50: letale concentration 50%
- LD50: letale dosis 50%
- leuciscus idus: fisch, ide, orfe
- MAK: maximum workplace concentration
- Met: Metall
- mus: mouse
- Muta: mutagen
- NIOSH: National Institute for Occupational Safety and Health (US)
- NRD: Non-rapidly degradable
- onchorhynchus mykiss: fisch, rainbow trout
- orl: oral
- OSHA: Occupational Safety and Health Administration
- PAX: transport on passenger planes allowed
- PBT: persistent, bioaccumulating, toxic substance
- pH: pH value
- pimephales promelas: fisch, fathead minnow
- PNEC: Predicted No Effect Concentration
- PROC 15: Process category 'for laboratory use'
- PRTR: Law for PRTR and Promotion of Chemical Management (Jp)
- PVC: polyvinyl chloride
- quail: bird, quail
- rat: rat
- rbt: rabbit



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RD:	rapidly degradable
RE:	repeated
REACH:	Registration, Evaluation, Authorisation and Restriction of Chemicals
REF:	item number, reference number
Reg.No.:	rRegistration number
Repr:	harmful to reproduction
Resp:	respiratory
scu:	sub cutan
RIP:	REACH Implementations Projects
SDS:	safety data sheet
Sens:	sensitisation
STEL:	short term exposure limit
STOT:	Specific Target Organ Toxicity
SVHC:	Substance of Very High Concern
t/a:	tons per year
TCCA:	Toxic Chemicals Control Act (S. Korea)
Tox:	toxic
TSCA:	The Toxic Substances Control Act (US)
TWA:	time weighted average
TRGS:	technical regulations (DE)
vPvB:	very persistent, very bioaccumulating substance

16.7 Training Advice

Regular safety training. Multiple safety training of staffs about danger and protection by using hazards in working area. Additionally training and introduction of staffs for using these products.

