

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

1.1. Product identifier

audioprint GR-12.2

UFI J7GX-P4ST-4T3V-YEPU

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

Relevant identified uses: Manufacture
Uses advised against: Private households (= general public).

1.3. Details of the supplier of the safety data sheet

Manufacturer

pro3dure medical GmbH
Am Burgberg 13
D 58642 Iserlohn

Telephone +49 (0)2374 920050-10
Telefax: +49 (0)2374 920050-50

Supplier

pro3dure medical GmbH
Am Burgberg 13
D 58642 Iserlohn

Telephone +49 (0)2374 920050-10
Telefax: +49 (0)2374 920050-50

Information contact

pro3dure medical GmbH

Information telephone +49 (0)2374 920050-10
Information telefax +49 (0)2374 920050-50
E-mail (competent person) info@pro3dure.com
Website www.pro3dure.com

1.4. Emergency telephone number

pro3dure medical GmbH
This number is serviced during office hours.

Telephone +49 (0)2374 920050-10

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008:
Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1/1A/1B, H317; Aquatic Chronic 2, H411

2.2. Label elements

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

Hazard pictograms



GHS07, GHS09
Warning

Signal word:

Hazard statements:

- H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+352 IF ON SKIN: Wash with plenty of water/soap.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 Specific treatment (see information on this label).
P332+313 If skin irritation occurs: Get medical advice/attention.
P333+313 If skin irritation or rash occurs: Get medical advice/attention.
P337+313 If eye irritation persists: Get medical advice/attention.
P362+364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.
P501 Dispose of contents/container according to official regulations.

Special labelling of particular preparations:

none

2.3. Other hazards

No risks worthy of mention.

SECTION 3: Composition / information on ingredients

3.1. Substances

not applicable

3.2. Mixtures

Mixture with, among others, the following ingredients and other non-hazardous admixtures

Composition/information on ingredients

Substance:	CAS-No.:	REACH-no.:	Concentration:	Classification: EC 1272/2008 (CLP):	M, ATE, Note
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	01-2120751202-68-XXXX	50-70 %	Skin Sens. 1/1A/1B, H317; Aquatic Chronic 2, H411	M = 0 ATE (dermal) = 2000 mg/kg bw ATE (oral) = 5000 mg/kg bw ATE (inhalativ) = Kein Wert ermittelbar
3,6,9-trioxaundecamethylenedi methacrylate	109-17-1		25-45 %	Skin Irrit. 2, H315; Eye Irrit. 2, H319	M = 0 ATE (dermal) = 3000 mg/kg bw ATE (oral) = 5000 mg/kg bw ATE (inhalativ) = Kein Wert ermittelbar
Phenyl-bis(2,4,6-trimethylbenzoyl)phosphine oxide	162881-26-7		≤ 02 %	Skin Sens. 1/1A/1B, H317; Aquatic Chronic 4, H413	M = 0 ATE (dermal) = 2000 mg/kg ATE (oral) = 2000 mg/kg ATE (inhalativ) = Kein Wert ermittelbar
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8		≤ 02 %	Repr. 2, H361; Skin Sens. 1/1A/1B, H317; Aquatic Chronic 2, H411	M = 0 ATE (dermal) = 2000 ATE (oral) = 5000 ATE (inhalativ) = 2000

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:	Remove contaminated, saturated clothing immediately. When in doubt or if symptoms are observed, get medical advice. If unconscious place in recovery position and seek medical advice.
In case of inhalation:	Provide fresh air. Seek medical attention if problems persist.
Following skin contact:	After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, consult a physician.
After eye contact:	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. Consult an ophthalmologist.
After ingestion:	Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Consult an ophthalmologist.

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

May cause sensitization by skin contact.

4.3. Indication of any immediate medical attention and special treatment needed

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media ABC-powder BC-powder alcohol resistant foam Carbon dioxide (CO₂)

Unsuitable extinguishing media Water spray jet Excess water Full water jet Strong water jet

5.2. Special hazards arising from the substance or mixture

In case of fire: Wear self-contained breathing apparatus. Co-ordinate fire-fighting measures to the fire surroundings.

5.3. Advice for firefighters

General information

Do not inhale explosion and combustion gases. Co-ordinate fire-fighting measures to the fire surroundings.

Special protective equipment for fire-fighters:

In case of fire: Wear self-contained breathing apparatus. Wear chemical resistant suit.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Remove all sources of ignition. Remove persons to safety. Wear personal protection equipment. Special danger of slipping by leaking/spilling product. See protective measures under point 7 and 8.

6.2. Environmental precautions

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

6.3. Methods and material for containment and 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.

6.4. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advices on safe handling

When using do not eat, drink, smoke, sniff. Use only in well-ventilated areas. All work processes must always be designed so that the following is as low as possible: Inhalation

Precautions against fire and explosion:

Always close containers tightly after the removal of product. Use only in well-ventilated areas. Use only in well-ventilated areas.

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. Protect against: UV-radiation/sunlight

Hints on joint storage

Do not store together with: Oxidizing agent Organic peroxides. Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

-

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

occupational exposure limit value

Substance:	CAS-No.:	Source:	Occupational exposure limit value:[ppm]	Occupational exposure limit value:[mg/m ³]	Limitation of exposure peaks:	Remark:

Substance with a common (EC) occupational exposure limit value.

Substance:	CAS-No.:	Source:	Occupational exposure limit value:[ppm]	Occupational exposure limit value:[mg/m ³]	Limitation of exposure peaks:	Remark:

DNEL-/PNEC-values

DNEL value

Substance:	CAS-No.:	DNEL/DMEL
3,6,9-trioxaundecamethylenedimethacrylate	109-17-1	worker inhalative long-term, systemic 48,5 mg/m ³ worker dermal long-term, systemic 13,9 mg/kg bw/day population inhalative long-term, systemic 14,5 mg/m ³ population dermal long-term, systemic 8,33 mg/kg bw/day population oral long-term, systemic 8,33 mg/kg bw/day
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	worker inhalative xxx(systemisch) 3,3 mg/m ³ worker dermal xxx(systemisch) 1,3 xxx(mg/kg bw /24h) population inhalative xxx(systemisch) 0,6 mg/m ³ population dermal xxx(systemisch) 0,7 xxx(mg/kg bw/24h) population xxx(systemisch) 0,3 xxx(mg/kg bw/24h)
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	worker inhalative long-term, systemic 0,822 mg/m ³ worker dermal long-term, systemic 0,233 mg/kg bw/day population inhalative long-term, systemic 0,145 mg/m ³ population dermal long-term, systemic 0,0833 mg/kg bw/day population oral long-term, systemic 0,0833 mg/kg bw/day
Phenyl-bis(2,4,6-trimethylbenzoyl)phosphine oxide	162881-26-7	worker inhalative long-term, systemic 21 mg/m ³ worker dermal long-term, systemic 3 mg/kg bw/day population inhalative long-term, systemic 5,2 mg/m ³ population dermal long-term, systemic 1,5 mg/kg bw/day population oral long-term, systemic 1,5 mg/kg bw/day

PNEC Value

Substance:	CAS-No.:	PNEC
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	aquatic, freshwater 0,01 µg/l aquatic, marine water 0,001 µg/l sewage treatment plant 3,61 µg/l sediment, freshwater 4,56 µg/kg dw sediment, marine water 0,46 µg/kg dw soil 0,91 µg/kg dw
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	aquatic, freshwater 1,4 µg/l aquatic, marine water 0,14 µg/l sediment, freshwater 115 µg/kg dw sediment, marine water 11,5 µg/kg dw soil 22,2 µg/kg dw
Phenyl-bis(2,4,6-trimethylbenzoyl)phosphine oxide	162881-26-7	aquatic, freshwater 1 µg/l intermittent release, freshwater 1 µg/l aquatic, freshwater 1 µg/l sewage treatment plant 1000 µg/l sediment, freshwater 712 µg/kg dw intermittent release, marine water 712 µg/l soil 20000 µg/kg dw

Additional information

none

8.2. Exposure controls

Occupational exposure controls:

Provide adequate ventilation as well as local exhaust at critical locations. Technical measures and the application of suitable work processes have priority over personal protection equipment.

General protection and hygiene measures:

When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Apply skin care products after work. Wash contaminated clothing prior to re-use.

Personal protection equipment

Only wear fitting, comfortable and clean protective clothing.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required. Respiratory protection necessary at: insufficient ventilation. Suitable respiratory protection apparatus: Protective respiration apparatus not using surrounding air (breathing apparatus) (DIN EN 133).

Hand protection

Tested protective gloves are to be worn: DIN-/EN-Norms: EN ISO 374 Suitable material: Butyl rubber.

Eye/face protection

Eye glasses with side protection

Body protection:

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes). Only wear fitting, comfortable and clean protective clothing. Barrier creams are not substitutes for body protection.

Environmental exposure controls

refer to chapter 7. No further action is necessary.

Consumer exposure controls

refer to chapter 7. No further action is necessary.

Exposure Scenario:

Skin contact Inhalation

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid
Colour: XXXX
Odour: characteristic
Odour threshold:

Safety relevant basis data

	parameter	Value	unit	Remark
Melting point/freezing point:		Keine Daten verfügbar		
Initial boiling point and boiling range:		Keine Daten verfügbar		
Flammability:		Keine Daten verfügbar		
lower flammability or explosive limits:		Keine Daten verfügbar		
Upper flammability or explosive limits:		Keine Daten verfügbar		
Flash point:		Keine Daten verfügbar		
Ignition temperature:		Keine Daten verfügbar		
Decomposition temperature:		Keine Daten verfügbar		
pH:		Keine Daten verfügbar		
Kinematic viscosity:	<	250	mPa*s	
Water solubility (g/L):		Keine Daten verfügbar		
Partition coefficient: n-octanol/water:		Keine Daten verfügbar		
Vapour pressure:		Keine Daten verfügbar		
Density:		1,1	g/cm ³	
Relative density:		Keine Daten verfügbar		
Particle properties:		Keine Daten verfügbar		

9.2. Other information

-

SECTION 10: Stability and reactivity

10.1. Reactivity

Sensitivity to light (photosensitive).

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Polymerization.

10.4. Conditions to avoid

Heat UV-radiation/sunlight. UV-radiation/sunlight.

10.5. Incompatible materials

Can polymerise exothermically if heated, exposed to air, sunlight or by addition of free radical initiators.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

none

M-factor: - **Acute toxicity (dermal):** > 2000 mg/kg
Acute toxicity (oral): > 2000 mg/kg **Acute toxicity (inhalative):** -

Acute toxicity

Substance:	CAS-No.:	Toxicological information
Phenyl-bis(2,4,6-trimethylbenzoyl)phosphine oxide	162881-26-7	LD50 oral (rat) > 2000 mg/kg LD50 dermal (rat) > 2000 mg/kg
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	LC50 inhalation (Rat) 2000 mg/ kg bw LD50 oral (rat) 5000 mg/kg bw LD50 dermal (rat) > 2000 mg/kg bw
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	LD50 oral (rat) > 5000 mg/kg LD50 dermal (rat) > 2000 mg/kg NOAEL Repr.-Tox. (Rat) 1000 mg/kg/d NOAEL STOT-RE (rat) 100 mg/kg/d
3,6,9-trioxaundecamethylenedimethacrylate	109-17-1	LD50 dermal (rat) > 3000 mg/kg LD50 oral (rat) > 5000 mg/kg

Skin corrosion/irritation:
sensitising.

Serious eye damage/irritation:
Irritating to eyes.

Respiratory or skin sensitisation:
May cause an allergic skin reaction.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity:
No indications of human carcinogenicity exist.
Germ cell mutagenicity:
No indications of human germ cell mutagenicity exist.
Reproductive toxicity:
No indications of human reproductive toxicity exist.

STOT-single exposure:

No information available.

STOT-repeated exposure:

No information available.

Aspiration hazard:

No data available

SECTION 12: Ecological information

12.1. Toxicity

There are no data available on the preparation/mixture itself.

Ecotoxicity

Substance:	CAS-No.:	Ecotoxicity
Phenyl-bis(2,4,6-trimethylbenzoyl)phosphine oxide	162881-26-7	EC50 Algae (Scenedesmus subspicatus) 72 h > 0,26 mg/l NOEC (algae , 72h) > 0,26 mg/l LC50 (fish, 96 h) > 0,09 mg/L NOEC (fish, 96h) > 0,09 mg/L EC50 (microorganisms, 3h) > 0,1 g/L EC50 (Daphnia, 48 h) > 1,175 mg/L
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	EC50 (Daphnia, 48 h) 3,53 mg/L EC50 (algae, 72 h) > 2,01 mg/L
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	LC50 (Daphnia) > 1,2 mg/l EC50 (algae, 72 h) > 0,68 mg/l LC50 (fish, 96 h) 101 mg/L EC50 (Daphnia, 48 h) > 12 mg/L NOEC (algae , 72h) 21 mg/l
3,6,9-trioxaundecamethylenedimethacrylate	109-17-1	EC50 Daphnia (Daphnia magna) 48 h 381 mg/l

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

There are no data available on the mixture itself.

12.6 Endocrine disruptive effect

There are no data available on the mixture itself.

12.7. Other adverse effects

There are no data available on the mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate disposal/Product:

Dispose of waste according to applicable legislation. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste. Must not be disposed together with household garbage.

Appropriate disposal / Package

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

List of proposed waste codes / waste designations according to EWC / AVV

According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

SECTION 14: Transport information

14.1. UN number

UN No.: 3082

14.2. UN proper shipping name

Land transport (ADR/RID)

UMW ELTGEFÄHRDENDER STOFF, FLÜSSIG, N.A.G.

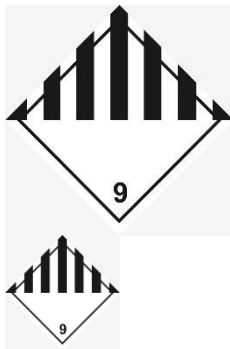
Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

14.3. Transport hazard class(es)

Hazard label(s) / Label: 9

Classification code: / Classification Code: M6



14.4. Packing group

Packing group/ Packing Group: III

14.5. Environmental hazards

ADR/RID / IMDG / ICAO-TI / IATA-DGR:
Marine pollutant:

Yes

No

14.6. Special precautions for user

Land transport (ADR/RID)

transport category: 3 tunnel restriction code: -
Special provisions: 274, 335, 375, 601 Limited quantity (LQ): 5 L

Sea transport (IMDG)

EmS-No: F-A, S-F

Special provisions: 274 335 969 Limited quantity (LQ): 5 L

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

Remark none

SECTION 15: Regulatory information

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

EU legislation

Information on Regulation (EC) No 166/2006 establishing a European Pollutant Release and Transfer Register:

-

Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer:

-

Regulation (EC) No. 648/2004 (Detergents regulation)

-

Regulation (EC) No 850/2004 [POP-Regulation]:

-

Regulation (EU) No 649/2012 on the export and import of dangerous chemicals:

-

Use restriction according to REACH annex XVII, no.::

-

National regulations

Observe in addition any national regulations!

Restrictions of occupation

No information available.

Other regulations, restrictions and prohibition regulations

-

15.2. Chemical Safety Assessment

For this preparation a chemical safety assessment has been carried out.

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Relevant H- and EUH-phrases (Number and full text):

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

Training advice

none

Recommended restrictions of use:

refer to chapter 1.

Further remarks:

The information provided in this safety data sheet is correct to the best of our knowledge at the time of printing. The information is intended to provide guidance on the safe handling of the product specified in this safety data sheet during storage, processing, transport and disposal. The information is not transferable to other products. Insofar as the product is mixed, blended or processed with other materials or undergoes treatment, the information in this safety data sheet cannot be transferred to the new material thus produced, unless expressly stated otherwise.

Documentation of changes:

Changes compared to version 4.1:

1.1 UFI-code added

Changes compared to version 4:

0 skipped version 3 and 4.1 to align to german version
2.2 Classification adjusted
3.2 Composition further broken down
4.1 revised
6.1 revised
7.1 amended
7.2 amended
8.1 revised according to 3.2
8.2 revised
10 revised
11.1 revised according to 3.2
12.1 Revised according to 3.2
14.1 UN number introduced according to 2.2.

Key literature references and sources for data

Data arise from reference works and literature.

Abbreviations and acronyms

AC: Artikelkategorie (Article Category)
ACGIH: Rat für Arbeitsschutz und Gefahrstoffe, Amerika (American Conference of Government Industrial Hygienists)
ADN: Europäisches Übereinkommen über die internationale Beförderung gefährlicher Güter auf Binnengewässern (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
ADR: Europäisches Übereinkommen über die internationale Beförderung gefährlicher Güter auf der Straße (Accord européen relatif transport des marchandises dangereuses par route)
AGW: Arbeitsplatzgrenzwert
AOX: Adsorbierbare organisch gebundene Halogene (Adsorbable Organic halogen compounds)
Bw: Körpergewicht (Body weight)
CMR: Stoffe klassifiziert als Krebserzeugend, Mutagen oder Reproduktionstoxisch (Carcinogenic, Mutagenic, toxic for Reproduction)
CSR: Stoffsicherheitsbericht (Chemical Safety Report)
DIN: Deutsches Institut für Normung / Deutsche Industrienorm
DNEL: Grenzwert, unterhalb dessen der Stoff keine Wirkung ausübt (Derived No Effect Level)
DPD: Zubereitungsrichtlinie / Richtlinie 1999-45-EC (Dangerous Preparations Directive)
DSD: Stoffrichtlinie / Richtlinie 67-548-EC (Dangerous Substances Directive)
DU: Nachgeschalteter Anwender (Downstream User)
EC50: Wirksame Konzentration 50% (Effective Concentration 50%)
ECHA: Europäische Chemikalienagentur
EN: Europäische Norm
EWC/EWL: Europäischer Abfallartenkatalog (European Waste Catalogue)
IATA: Verband für den internationalen Lufttransport (International Air Transport Association)
IBC: Großpackmittel (Intermediate Bulk Container)
ICAO: Internationale Zivilluftfahrt-Organisation (International Civil Aviation Organization)
IMDG Code: Gefahrgutvorschriften für den internationalen Seetransport (International Maritime Dangerous Goods Code)
IMO: Internationale Seeschiffahrts-Organisation (International Maritime Organization)
ISO: Internationale Normungsorganisation (International Standards Organisation)
LC50: Lethale (Tödliche) Konzentration 50%
LD50: Lethale (Tödliche) Dosis 50%
LEV: Lokale Absaugung (Local exhaust ventilation)
MAK: Maximale Arbeitsplatzkonzentration – DFG
n.a.: nicht anwendbar
n.b.: nicht bestimmt
OEL: Arbeitsplatzgrenzwert (Occupational Exposure Limit)
PBT: persistent, bioakkumulierbar, giftig (persistent, bioaccumulative, toxic)
PNEC: Abgeschätzte Nicht-Effekt-Konzentration (Predicted No Effect Concentration)
PPE/PSA: Persönliche Schutzausrüstung (Personal Protective Equipment)
REACH: Registrierung, Bewertung und Zulassung von Chemikalien (Registration, Evaluation and Authorization of Chemicals)
RID: Gefahrgutvorschriften für den Transport mit der Eisenbahn (Règlement International concernant le transport de marchandises dangereuses par chemin de fer)
STEL: Grenzwert für Kurzzeitexposition (Short-term Exposure Limit)
SVHC: Stoff sehr hoher Besorgnis (Substance of Very High Concern)
TLV: Arbeitsplatzgrenzwert (Threshold Limit Value)
VOC: Flüchtige organische Kohlenwasserstoffe (Volatile Organic Compounds)
vPvB: sehr persistent, sehr bioakkumulierbar (very persistent, very bioaccumulativ)