



November 19, 2015

Mr. Edward S. Andrews, P.E.
Engineer
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

Re: Permit Determination Request
Alternate Quaternary Ammonium Compounds
Containing Isopropanol and Ethanol Carriers
Elementis Specialties, Inc.
1003 MacCorkle Avenue, S.W.
Charleston, Kanawha County
Plant ID No. 039-00051 PDIS-103
Permit No. R13-1847E

Dear Mr. Andrews:

Elementis Specialties, Inc. (Elementis) is submitting this letter and the attached Safety Data Sheet (SDS) for the Division of Air Quality's review. We are seeking the Division's concurrence that a modification or other revision to Elementis's air permit for its Charleston facility is not required to allow Elementis to use an alternate supplier of Quaternary Ammonium Compound (quat). This issue was discussed with you and Mr. Todd Shrewsbury on October 30, 2015. We appreciated the time you both took to review the issues with us over the telephone.

As discussed, Elementis is evaluating EVONIK Industries (EVONIK) as an alternate supplier for its quat raw material. The attached SDS from EVONIK describes the quat. EVONIK produces quat with isopropanol as a solvent, and produces quat with ethanol as a solvent. Elementis purchases quat with ethanol for its operations in Charleston. If Elementis purchases its ethanol-containing quat from EVONIK, however, the quat may also contain residual isopropanol (<10%) from EVONIK's other productions because EVONIK uses the same equipment to produce both varieties of quat.

Elementis has an existing permit limitation per Permit R13-1847E which requires Elementis to track the volatile organic compounds (VOC) content of the quat and to demonstrate that emission limits have not been violated as follows:

4.1.17. If at any time the facility wishes to produce a product which requires a Quaternary Ammonium Salt raw material VOC content greater than 15% by weight, the facility will keep a record of the product name, how much was produced, the date and time production began and ended, and copies of the calculations showing that the emission limitations set forth in Section 4.1.11 have not been violated. These records shall be maintained on site for a period of at least (5) years and be made available to the Director or his duly authorized representative upon request.

Entire Document
NON-CONFIDENTIAL

Elementis Specialties, Inc.

1003 MacCorkle Avenue, S.W.
Charleston, WV, 25303-1323

Telephone: 304/342-8103
Fascimile: 304/342-7308

Web: www.elementis-specialties.com

Elementis has a quat receiving process which requires that the VOC content be less than 14%. Quat deliveries with a VOC content higher than the internal control are rejected. Elementis expects that the ethanol-containing quat from EVONIK will comply with the VOC limit in Permit R13-1847E even if the quat contains residual isopropanol.

The quat from EVONIK will not require any facility changes at Elementis. Elementis historically had used quat made with isopropanol for years prior to ethanol becoming more widely available. Isopropanol and ethanol, which are both alcohols, are only solvents in the quat raw material and are not contained in the final product. During production of the final products, the isopropanol and ethanol are either captured in the water filtrate that is sent to the biological waste water treatment system or are removed as a vapor from the process and destroyed in the thermal oxidizer. The biological waste water treatment plant was initially designed for isopropanol, and no operating changes are required in the waste water treatment plant to treat both isopropanol and ethanol since both alcohols are consumed readily by the biologics within the system. Furthermore, there is no anticipated emissions difference between the two alcohols with respect to the waste water treatment system or destruction efficiency in the thermal oxidizer. Under 45CSR13-2.17.f.5, use of the quat from EVONIK is not a "modification" because it is the use of an alternative raw material that the source is designed to accommodate, that will not increase emissions, and is not prohibited by the air permit:

Therefore, Elements believes it can utilize the alternate quat without revision to the permit. We request your review and concurrence on this issue. Elementis would like to receive a delivery of the quat from EVONIK and conduct a trial production run in December 2015 .

If you have any questions, please call any time.

Sincerely,



John Snodgrass
Plant Manager

Attachment: Quaternary Ammonium Compounds SDS, EVONIK Industries

c: Mr. Todd Shrewsbury, DAQ

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ADOGEN 442 83 EI

VA-No.

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**1. Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Trade name : ADOGEN 442 83 EI
Chemical Name : Quaternary Ammonium Compounds

1.2. Recommended use of the chemical and restrictions on use

Recommended use : Industrial Use
Non-recommended use(s) : None known.

1.3. Details of the supplier of the safety data sheet

Company : Evonik Corporation
Consumer Specialties
PO Box 1299
HOPEWELL VA 23860
USA
Telephone : +1 (0)804 541-8658
Telefax : +1 (0)804 541-2783
E-mail : productsafety-cs@evonik.com

Contact Canada

Company : Evonik Canada Inc.
PO Box 5057
3380 South Service Road
Burlington ON L7N 3J5
Canada
Telephone : +1 (0)905-336-3423
Telefax : +1 (0)905-332-5632
E-mail : productsafety-cs@evonik.com

1.4. Emergency telephone number

Emergency information : Non-Emergency Phone Number : (800) 732-5616
In case of emergency call CHEMTREC US: 1-800-424-9300, CHEMTREC WORLD:
1-703-527-3887.

24 HOUR EMERGENCY TELEPHONE NUMBERS:
CHEMTREC - US & CANADA toll free: +1-800-424-9300
CHEMTREC - MEXICO toll free: 01-800-681-9531
CHEMTREC GLOBAL - Collect calls accepted: +1-703-527-3887

2. Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation 29CFR 1910.1200**

Flammable liquids	Category 3	H226
Skin irritation	Category 2	H315
Serious eye damage	Category 1	H318
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 1	H410

2.2. Label elements

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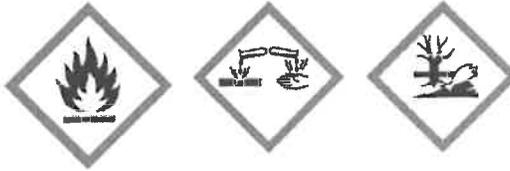
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Constituent decisive for hazardous-substance labeling : Quaternary ammonium compounds, di-C14-18-alkyldimethyl, chlorides: CAS-No. 68002-59-5

Symbol(s) :



Signal word : Danger

hazard statement : H226 - Flammable liquid and vapour.
 H315 - Causes skin irritation.
 H318 - Causes serious eye damage.
 H410 - Very toxic to aquatic life with long lasting effects.

Precautionary Statement (Prevention) : P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P233 - Keep container tightly closed.
 P240 - Ground/bond container and receiving equipment.
 P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment.
 P242 - Use only non-sparking tools.
 P243 - Take precautionary measures against static discharge.
 P264 - Wash skin thoroughly after handling.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves/ eye protection/ face protection.

Precautionary Statement (Response) : P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 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 or doctor/ physician.
 P332 + P313 - If skin irritation occurs: Get medical advice/ attention.
 P362 + P364 - Take off contaminated clothing and wash it before reuse.
 P370 + P378 - In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
 P391 - Collect spillage.

Precautionary Statement (Storage) : P403 + P235 - Store in a well-ventilated place. Keep cool.

Precautionary Statement (Disposal) : P501 - Dispose of contents/ container to an approved waste disposal plant.

2.3. Other hazards

None known

3. Composition/information on Ingredients**Classification according to Regulation 29CFR 1910.1200**

Chemical Name	NJ Trade secrets CAS-No.	Concentration	Classification
Quaternary ammonium compounds, di-C14-18-alkyldimethyl, chlorides	- 68002-59-5	75 % - 85 %	H400, 1 , Aquatic Acute H410, 1 , Aquatic Chronic H318, 1 , ED H315, 2 , Skin Irrit.
Propan-2-ol	- 67-63-0	< 10 %	H225, 2 , Flam. Liq. H336, 3 , STOT SE H319, 2A , Eye Irrit.
Methyl Chloride	- 74-87-3	< 0.05 %	H280, Liquefied gas , Press. Gas H220, 1 , Flam. Gas H351, 2 , Carc. , inhalation

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			H361, 2, Repr., inhalation H373, 2, STOT SE, inhalation , Liver, Central nervous system
Ethanol	- 64-17-5	7 % - 13 %	H225, 2, Flam. Liq.

Texts of H phrases, see in Chapter 16

4. First aid measures**4.1. Description of first aid measures**

- General advice : No information available.
- Inhalation : Remove individual from site of exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
- Skin contact : Immediately wash exposed area with soap and water for at least 15 minutes, then flush with water for at least 5 minutes. If reddening persists, or if open sores or blisters develop, see a physician. Remove contaminated clothing and launder before re-use.
- Eye contact : Immediately flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Get medical attention immediately. If physician is not immediately available, continue flushing with water. Do not use chemical antidote.
- Ingestion : Immediately drink two large glasses of water. Call a physician.

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

- Symptoms : No information is on file to date regarding acute and/or delayed post-exposure symptoms and effects.

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

Treat symptomatically.

5. Fire-fighting measures**5.1. Extinguishing media**

Suitable extinguishing media : Dry chemical, water fog, alcohol foam

Unsuitable extinguishing media :

5.2. Special hazards arising from the substance or mixture

Carbon monoxide, nitrogen oxides, organic amines, hydrogen chloride, methyl chloride, and various unknown organic compounds.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

Water or foam may cause frothing which can be violent, especially if sprayed into containers of hot, burning liquid.

6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

no data available

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6.2. Environmental precautions

no data available

6.3. Methods and material for containment and cleaning up

7. Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : no data available

Handling : no data available

Hygiene measures : No smoking, eating or drinking allowed when using this product. Wash hands before breaks and at end of work shift. Avoid Skin and Eye Contact. Containers, even those that have been emptied, will retain product residue and vapors. Always obey hazard warnings and handle empty containers as if they were full.

General protective measures : no data available

7.2. Conditions for safe storage, including any incompatibilities

Prevention of fire and explosion

Information : Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors or other ignition sources at locations distant from material handling point. Never use cutting or welding torch on or near drum (even empty); product (or even residue) can ignite explosively. All five gallon pails and larger metal containers should be grounded. Care should be taken to avoid static discharge when transferring liquid to and from nonconductive containers.

Storage

Information : Containers should be grounded when pouring. Avoid free fall of liquid in excess of a few inches, unless adequate grounding is first established. Keep away from heat, sparks, and open flames. Based on the product flash point and vapor pressure, suitable storage should be provided in accordance with OSHA, 29 CFR 1910.106. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture, or weld on or near container. All label warnings must be observed until the container has been cleaned or reconditioned.

Further information on storage conditions : Exercise caution when handling contents of the container. Wash with soap and water before eating, drinking, smoking, or using toilet facilities. Whenever possible, use mechanical means to move large and/or heavy objects to help prevent back injuries.

8. Exposure controls/personal protection

8.1. Control parameters

Exposure limit(s)

Ingredients	CAS-No.	Statutory basis/list (Update)	Value type (Form of exposure, Expressed as)	Value	Short-term
Propan-2-ol	67-63-0	ACGIH (01 2005)	TWA	200 ppm	
		ACGIH (01 2005)	STEL	400 ppm	
		ACGIH (2008)	STEL	400 ppm	

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Methyl Chloride		ACGIH (2008)	TWA	200 ppm	
	74-87-3	ACGIH (2008)	SKIN_DES		
	Can be absorbed through the skin.				
Ethanol		ACGIH (2008)	TWA	50 ppm	
		ACGIH (2008)	STEL	100 ppm	
	64-17-5	ACGIH (2008)	TWA	1,000 ppm	
Propan-2-ol	67-63-0	OSHA Z1 (02 2006)	PEL	400 ppm 980 mg/m3	
Ethanol	64-17-5	OSHA Z1 (02 2006)	PEL	1,000 ppm 1,900 mg/m3	
Methyl Chloride	74-87-3	OSHA Z2 (02 2006)	TWA	100 ppm	
		OSHA Z2 (02 2006)	Ceiling	200 ppm	
		OSHA Z2 (02 2006)	MAX. CONC	300 ppm	

8.2. Exposure controls

Engineering controls

Appropriate engineering controls

- ⌘ Provide sufficient ventilation to maintain exposure below established exposure limits and to avoid effects of overexposure. This product may contain up to 300ppm residual methyl chloride which, during normal operations, is not expected to present a hazard to employees handling this product. Methyl chloride, however, may accumulate in the headspace of storage tanks, and in tank wagons and tank cars during transport and storage. Employees may be exposed, when manholes are opened, to high concentrations of methyl chloride unless adequate ventilation is provided or respiratory protection is used.

Personal protective equipment

- Eye protection : Chemical splash proof goggles.
- Hand protection : Wear protective gloves such as: Neoprene or Buna-N.
- Body Protection : Wear a chemical resistant butyl rubber apron and other protective clothing, as deemed appropriate, to avoid skin contact with material.
- Respiratory protection : A NIOSH/MSHA approved respirator with organic vapor canister or self-contained breathing apparatus is recommended if there is insufficient ventilation to maintain exposures below the PEL and/or level of comfort.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : liquid
- Form : paste
- Colour : White to Slightly Yellow
- Odour : Alcohol
- Odour Threshold : not measured
- pH : ca. 5 - 7
Remarks: At 10%, in Isopropanol / Water solvent.

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Melting point : no data available

Boiling point : Boiling point/range
172 °F

Flash point : 85 °F
Method: Penskey-Marten CC

Evaporation rate : Slower than ether

Flammability : no data available

Upper
Explosion/Ignition
Limit : 19.0 %(V)

Lower explosion limit : 3.3 %(V)

Vapour pressure : 53.20 mbar
(65 °F)

Relative vapour
density : Heavier than air

Relative density : no data available

Solubility(ies) : not measured

Partition coefficient:
n-octanol/water : not measured

Autoignition
temperature : not measured

Thermal
decomposition : no data available

Viscosity, kinematic : no data available

Viscosity, dynamic : no data available

Explosive properties : not measured

Oxidising properties : not measured

9.2. Other information

Density : 0.90 g/cm³

Metal corrosion : not measured

10. Stability and reactivity

10.1. Reactivity

see section "Possibility of hazardous reactions"

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10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

No

10.4. Conditions to avoid

Avoid heat, flame and contact with strong oxidizing agents.

10.5. Incompatible materials

Unknown

10.6. Hazardous decomposition products

no data available

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : no data available

Acute toxicity (inhalation) : no data available

Acute toxicity (dermal) : no data available

Irritation/corrosion of the skin : This material is irritating to skin.

Serious eye damage/ eye irritation : Result: This material is irritating to the eyes.

Respiratory/skin sensitization : no data available

Repeated dose toxicity : no data available

CMR assessment

Carcinogenicity : no data available

Mutagenicity : no data available

Teratogenicity : no data available

Toxicity to reproduction : no data available

Carcinogenicity : This product contains component(s) that are listed on one or more of the following lists: NTP, IARC, ACGIH, or OSHA as a carcinogen.

Specific Target Organ Toxicity - Single exposure : no data available

Specific Target Organ Toxicity - Repeated exposure : no data available

Other information : no data available

12. Ecological information

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Ecotoxicology Assessment

Acute aquatic toxicity : no data available

Chronic aquatic toxicity : no data available

12.1. Toxicity

Aquatic toxicity, fish : no data available

Aquatic toxicity, invertebrates : no data available

Aquatic toxicity, algae / aquatic plants : no data available

Toxicity in microorganisms : no data available

chronic toxicity in fish : no data available

Chronic toxicity in aquatic Invertebrates : no data available

Toxicity in organisms which live in the soil : no data available

Toxicity in terrestrial plants : no data available

Toxicity to Above-Ground Organisms : no data available

12.2. Persistence and degradability

Photodegradation : no data available

Biological degradability : no data available

Physico-chemical removability : no data available

Biochemical Oxygen Demand (BOD) : no data available

Chemical Oxygen Demand (COD) : no data available

relation of BOD/COD : no data available

Dissolved organic carbon (DOC) : no data available

Adsorbed organic bound halogens (AOX) : no data available

Distribution among : no data available

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environmental
compartments

12.3. Bioaccumulative potential

Bioaccumulation : no data available

12.4. Mobility in soil

Environmental distribution : no data available

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment : no data available

12.6. Other adverse effects

General Information : This product is toxic to fish: prevent run-off to sewers, streams or other bodies of water.

13. Disposal considerations

13.1. Waste treatment methods

Product : This product is an Ignitable waste (D001) under current RCRA regulations. Incineration in an authorized and permitted thermal treatment facility is recommended. Inquire of a permitted TSD facility for other options.

Contaminated packaging : no data available

14. Transport information

D.O.T. Road/Rail

- 14.1 UN number: UN 1987
14.2 UN proper shipping name: Alcohols, n.o.s. (ethanol, isopropanol, quaternary ammonium compounds)
14.3 Transport hazard class(es): 3
14.4 Packing group: III
14.5 Environmental hazards (Marine pollutant): Yes
14.6 Special precautions for user: No

Air transport ICAO-TI/IATA-DGR

- 14.1 UN number: UN 1987
14.2 UN proper shipping name: Alcohols, n.o.s. (ethanol, isopropanol, quaternary ammonium compounds)
14.3 Transport hazard class(es): 3
14.4 Packing group: III
14.5 Environmental hazards: Yes
14.6 Special precautions for user: No

Sea transport IMDG-Code/GGVSee (Germany)

- 14.1 UN number: UN 1987
14.2 UN proper shipping name: ALCOHOLS, N.O.S. (ethanol, isopropanol, quaternary ammonium compounds)
14.3 Transport hazard class(es): 3

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- 14.4. Packing group: III
- 14.5. Environmental hazards (Marine pollutant): Yes
- 14.6. Special precautions for user: Yes
- EmS: F-E,S-D
- Stowage category A
- 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
for transport approval see regulatory information

15. Regulatory information

Canada:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation and the (M)SDS contains all information required by the Controlled Products Regulation

Canada

WHMIS CLASSIFICATION

Class B, Division 2, Flammable Liquid

Class D, Division 2, Subdivision B

This product contains component(s) that are listed on the WHMIS Ingredient Disclosure List.

2-Propanol

67-63-0

Chloromethan

74-87-3

Ethanol

64-17-5

US regulations:

SARA Title III Section : Fire Hazard

311/312 Hazard

Categories

Acute Health Hazard

CERCLA

: CAS 67-63-0

100 lbs

CAS 74-87-3

100 lbs

CAS 64-17-5

100 lbs

Other regulations

: no data available

State Right to Know

: MASS RTK: YES

- Propan-2-ol (CAS-No.: 67-63-0)
- Methyl Chloride (CAS-No.: 74-87-3)
- Ethanol (CAS-No.: 64-17-5)

RH IS RTK: YES

- Propan-2-ol (CAS-No.: 67-63-0)
- Methyl Chloride (CAS-No.: 74-87-3)
- Ethanol (CAS-No.: 64-17-5)

NJ RTK: YES

- Propan-2-ol (CAS-No.: 67-63-0)
- Methyl Chloride (CAS-No.: 74-87-3)

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- Ethanol (CAS-No.: 64-17-5)

PENN RTK: YES

- Propan-2-ol (CAS-No.: 67-63-0)
- Methyl Chloride (CAS-No.: 74-87-3)
- Ethanol (CAS-No.: 64-17-5)

California Proposition 65 Statement : Notification : Yes

- This product contains a chemical known to the state of California to cause cancer, birth defects, or other reproductive effects. Methyl Chloride (CAS-No.: 74-87-3)

TSCA lists : TSCA 8D - Yes

- Propan-2-ol (CAS-No.: 67-63-0)
- Methyl Chloride (CAS-No.: 74-87-3)

HMIS Ratings Health: 3
Flammability: 3
Reactivity: 0
Personal Protection: X

Notification status

USA (TSCA) : listed/registered or exempted
Canada (DSL) : listed/registered or exempted

16. Other information

List of references

Training advice : Provide adequate information, instruction and training for operators.
Revision date : 08/06/2015

Relevant H phrases from chapter 3

H220 : Extremely flammable gas.
H225 : Highly flammable liquid and vapour.
H280 : Contains gas under pressure; may explode if heated.
H315 : Causes skin irritation.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H336 : May cause drowsiness or dizziness.
H351 : Suspected of causing cancer.
H361 : Suspected of damaging fertility or the unborn child.
H373 : May cause damage to organs through prolonged or repeated exposure.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.

Changes since the last version are highlighted in the margin. This version replaces all previous versions. This information and any recommendations, technical or otherwise, are presented in good faith and believed to be correct as of the date prepared. Recipients of this information and recommendations must make their own determination as to its suitability for their purposes. In no event shall Evonik assume liability for damages or losses of any kind or nature that result from the use of or reliance upon this information and recommendations. EVONIK EXPRESSLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS, NON-INFRINGEMENT, MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE) WITH RESPECT TO ANY INFORMATION AND RECOMMENDATIONS PROVIDED. Reference to any trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used. Evonik reserves the right to make any changes to the information and/or recommendations at any time, without prior or subsequent notice.

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**Legend**

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADNR	European agreement concerning the international carriage of dangerous goods by inland waterways (ADN)
ASTM	American Society for Testing and Materials
ATP	Adaptation to Technical Progress
BCF	Bioconcentration factor
BetrSichV	German Ordinance on Industrial Safety and Health
c.c.	closed cup
CAS	Chemical Abstract Services
CESIO	European Committee of Organic Surfactants and their Intermediates
ChemG	German Chemicals Act
CMR	carcinogenic-mutagenic-toxic for reproduction
DIN	German Institute for Standardization
DMEL	Derived minimum effect level
DNEL	Derived no effect level
EINECS	European Inventory of Existing Commercial Chemical Substances
EC50	half maximal effective concentration
GefStoffV	German Ordinance on Hazardous Substances
GGVSEB	German ordinance for road, rail and inland waterway transportation of dangerous goods
GGVSee	German ordinance for sea transportation of dangerous goods
GLP	Good Laboratory Practice
GMO	Genetic Modified Organism
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ISO	International Organization For Standardization
LOAEL	Lowest observed adverse effect level
LOEL	Lowest observed effect level
NOAEL	No observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
o. c.	open cup
OECD	Organisation for Economic Cooperation and Development
OEL	Occupational Exposure Limit
PBT	Persistent, bioaccumulative, toxic
PEC	Predicted effect concentration
PNEC	Predicted no effect concentration
REACH	REACH registration
RID	Convention concerning International Carriage by Rail
STOT	Specific Target Organ Toxicity
SVHC	Substances of Very High Concern
TA	Technical Instructions
TPR	Third Party Representative (Art. 4)
TRGS	Technical Rules for Hazardous Substances
VCI	German chemical industry association
vPvB	very persistent, very bioaccumulative
VOC	volatile organic compounds
VwVwS	German Administrative Regulation on the Classification of Substances Hazardous to Waters into Water Hazard Classes
WGK	Water Hazard Class
WHO	World Health Organization