### Safety Data Sheet acc. to OSHA HCS

4 EM

Printing date 01/22/2014 Reviewed on 01/22/2014

#### 1 Identification

· Product identifier

· Trade name: **Akepox Colouring pastes** 

· Article number: 11220, 11221, 11222, 11223, 11224, 11225, 11226, 11227, 11228

· Relevant identified uses of the substance or mixture and uses

No further relevant information available. advised against

· Application of the substance / the

Stainer mixture

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH

Tel. +49(0)911-642960 Fax. +49(0)911-644456 Lechstrasse 28 e-mail info@akemi.de D 90451 Nürnberg

· Information department: Laboratory

Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH · Emergency telephone number:

Tel. +49(0)911-64296-59

Reachable during the following office hours: Monday - Thursday from 07:30 a.m. to 16:30 p.m.

Friday from 07:30 a.m. to 13:30 p.m.

### 2 Hazard(s) identification

· Classification of the substance or mixture



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Irritating to eyes and skin. May cause sensitization by skin contact.



Dangerous for the environment

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular

hazards for human and

environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

The classification was made according to the latest editions of international

substances lists, and expanded upon from company and literature data.

#### · Label elements

· Classification system:

· Labelling according to EU

guidelines:

The product has been classified and marked in accordance with directives on hazardous materials.

· Code letter and hazard designation of product:



Xi Irritant

N Dangerous for the environment

 Hazard-determining components of labeling:

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)

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reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number average

molecular weight ≤ 700) 1.6-hexanediol diglycidyl ether

Irritating to eyes and skin. · Risk phrases:

May cause sensitization by skin contact.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic

environment

· Safety phrases: Keep out of the reach of children.

Do not breathe vapour.

Avoid contact with skin and eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek

medical advice.

Do not empty into drains, dispose of this material and its container at hazardous

or special waste collection point

Wear suitable protective clothing, gloves and eye/face protection. In case of insufficient ventilation, wear suitable respiratory equipment.

If swallowed, seek medical advice immediately and show this container or label.

Use only in well-ventilated areas.

· Special labeling of certain preparations:

· Classification system:

· NFPA ratings (scale 0 - 4)

Contains epoxy constituents. See information supplied by the manufacturer.



Health = 1Fire = 0Reactivity = 0

· HMIS-ratings (scale 0 - 4)

Health = 1REACTIVITY 0

Fire = 0Reactivity = 0

### · Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable. · vPvB: Not applicable.

### 3 Composition/information on ingredients

· Chemical characterization: Mixtures

Mixture of the substances listed below with nonhazardous additions. · Description:

<ul> <li>Dangerous components:</li> </ul>		
CAS: 25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average	25-50%
NLP: 500-033-5	molecular weight = 700)	
Index number: 603-074-00-8	🗙 Xi R36/38-43; 👺 N R51/53	
	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	
CAS: 9003-36-5	reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number average	<12.5%
	molecular weight ≤ 700)	
	🗙 Xi R38-43; 🝢 N R51/53	
	♦ Skin Irrit. 2, H315; Skin Sens. 1, H317	
CAS: 16096-31-4	1.6-hexanediol diglycidyl ether	<12.5%
EINECS: 240-260-4	x Xi R36/38-43	
	R52/53	
	Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	

· Additional information:

For the wording of the listed risk phrases refer to section 16.

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#### 4 First-aid measures

· Description of first aid measures

• General information: Take affected persons out into the fresh air.

• After inhalation: Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for

transportation.

· After skin contact: If skin irritation continues, consult a doctor.

Immediately wash with water and soap and rinse thoroughly.

· After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist,

consult a doctor.

· After swallowing: Rinse out mouth and then drink plenty of water.

· Information for doctor: Bisphenol-A based resins: Inhalation, swallowing or dermal incorporation may

cause health damage. Irritates respiratory tract, digestion system, eyes and skin: e.g., cough, dyspnea, lacrimation, burning. May cause health interferences such as dermal changes, renal, hepatic damage, and blood count changes. May provoke skin allergies. Sensitized users can react towards very low concentrations of Bisphenol-A-Epichlorhydrine and should avoid any further

contact with this chemical.

The sensitizing effect of epoxide based resins is mainly caused by the concentration of epoxy resin polymers with a specific molecular weight  $\leq$  300. The observed allergic dermal and respiratory appearances should be treated symptomatically in dependence of the severity. An epoxy resin based allergic disease belongs to a cell mediated (interaction of lymphocytes) type IV allergy.

 Most important symptoms and effects, both acute and delayed

acute and delayed Allergic reactions

Danger Danger

Danger of impaired breathing.

Skin contact with polyester and epoxy resin solutions as ingredient of the product should be avoided due to risks of skin irritations or allergic skin appearances. If occasional hand contact can not be avoided, protection gloves, proper protection ointments and protective agents generating a protective layer on the skin were applied.

· Indication of any immediate medical attention and special

<u>treatment needed</u> If swallowed, gastric irrigation with added, activated carbon.

### 5 Fire-fighting measures

· Extinguishing media

• <u>Suitable extinguishing agents:</u> CO2, extinguishing powder or water spray. Fight larger fires with water spray or

alcohol resistant foam.

· Special hazards arising from the

**substance or mixture** Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon monoxide (CO)

In certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:

Hydrogen chloride (HCI)

· Advice for firefighters

Protective equipment: Wear fully protective suit.

Wear self-contained respiatory protective device. Do not inhale explosion gases or combustion gases.

· Additional information Collect contaminated fire fighting water separately. It must not enter the sewage

system.

Dispose of fire debris and contaminated fire fighting water in accordance with

official regulations.

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#### 6 Accidental release measures

· Personal precautions, protective equipment and emergency

procedures

Not required.

· Environmental precautions:

Do not allow to penetrate the ground/soil.

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage

system.

Do not allow to enter sewers/ surface or ground water.

· Methods and material for

**containment and cleaning up:** Dispose of the collected material according to regulations.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal

binders, sawdust).

Ensure adequate ventilation.

• Reference to other sections See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### 7 Handling and storage

· Handling:

Precautions for safe handling
 Keep receptacles tightly sealed.

Store in cool, dry place in tightly closed receptacles.

Use only in well ventilated areas.

Ensure good ventilation/exhaustion at the workplace.

 Information about protection against explosions and fires:

No special measures required.

### · Conditions for safe storage, including any incompatibilities

· Storage:

Requirements to be met by

storerooms and receptacles:

Store only in the original receptacle. Prevent any seepage into the ground.

· Information about storage in one

common storage facility:

Store away from reducing agents.

Store away from foodstuffs.

Further information about storage

conditions:

Store receptacle in a well ventilated area.

Keep receptacle tightly sealed.

• **Specific end use(s)** No further relevant information available.

#### 8 Exposure controls/personal protection

· Additional information about

**design of technical systems:** No further data; see item 7.

· Control parameters

· Components with limit values that

require monitoring at the

workplace:

The product does not contain any relevant quantities of materials with critical

values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

· Personal protective equipment:

· General protective and hygienic

measures:

Do not eat, drink, smoke or sniff while working.

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Use skin protection cream for skin protection.

Clean skin thoroughly immediately after handling the product.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols. Avoid contact with the eyes and skin.

• Breathing equipment: In case of brief exposure or low pollution use respiratory filter device. In case of

intensive or longer exposure use respiratory protective device that is

independent of circulating air. Short term filter device:

Filter A/P2

· Protection of hands: Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

Akemi skin protection agent recommendation for preventive skin shelter without

use of protective gloves:

ARRETIL (http://www.stoko.com)

Akemi skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:

STOKO EMULSION (http://www.stoko.com)

Akemi skin protection recommendation for skin cleaning after product handling:

SLIG SPEZIAL (http://www.stoko.com)

Akemi skin protection agent recommendation for skin aftercare:

STOKO VITAN (http://www.stoko.com)

The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory anylyses of the company KCL GmbH in compliance with EN374.

This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: http://www.kcl.de).



#### Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves
 Butyl rubber, BR

Chloroprene rubber, CR Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

Value for the permeation: Level  $\leq$  6, 480 min

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

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 For the permanent contact gloves made of the following materials are

suitable:

Butyl rubber, BR

Butoject (KCL, Art No. 897, 898)

Nitrile rubber, NBR

Dermatril (Art No. 740, 741, 742)

Camatril (KCL, Art No. 730, 731, 732, 733)

Chloroprene rubber, CR

Camapren (KCL, Art No. 720, 722, 726)

 As protection from splashes gloves made of the following materials are

suitable:

Nitrile rubber, NBR

Dermatril (KCL, Art No. 740, 741, 742) Camatril (KCL, 730, 731, 732, 733)

Natural rubber, NR

Combi-Latex (KCL, Art No. 395)

· Not suitable are gloves made of the following materials:

Leather gloves

Strong gloves

· Eye protection:

Tightly sealed goggles

Body protection: Protective work clothing

### 9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Pasty

Color: Different according to coloring

· Odor: Characteristic

• <u>pH-value:</u> Not applicable

· Change in condition

Melting point/Melting range: Undetermined. > 200 °C (> 392 °F)

• Flash point: Not applicable.

· Ignition temperature: > 300 °C °C (> 572 °C °F)

• Decomposition temperature: > 200 °C °C (> 392 °C °F)

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Vapor pressure at 20 °C (68 °F): 2 hPa (2 mm Hg)

- Density at 20 °C (68 °F): 1.57 g/cm³ (13.102 lbs/gal) ([1,43-1,78 g/cm³])

Specific gravity at 20 °C (68 °F): 1.57 g/cm³ (13.102 lbs/gal) (1.43-1.78)

· Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

Viscosity:

Dynamic at 20 °C (68 °F): 23000 mPas

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Solvent content:
 Organic solvents:

0.0 %

Solids content:

49.8 %

· Other information

No further relevant information available.

### 10 Stability and reactivity

· Reactivity

Chemical stability

Thermal decomposition / conditions to be avoided:
 Possibility of hazardous

No decomposition if used and stored according to specifications.

<u>reactions</u>

May produce violent reactions with bases and numerous organic substances including alcohols and amines.

Conditions to avoid
 Incompatible materials:

No further relevant information available. No further relevant information available.

· Hazardous decomposition

products:

Irritant gases/vapors

#### 11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

I D/I C50	) values	that are	relevant	for c	lassification:

### 25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)

Oral	LD50	20000 mg/kg (mouse)
		20000 mg/kg (mouse) 19800 mg/kg (rabbit)
		11400 mg/kg (rat)
		540 mg/kg (rat) (OECD 416)
Dermal	LD50	1270 mg/kg (mouse)

> 2000 mg/kg (rabbit)

> 1200 mg/kg (rat)

### 9003-36-5 reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number average molecular weight < 700)

Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	> 2000 mg/kg (rabbit)
		>2000 mg/kg (rat)

Primary irritant effect:

· on the skin: Irritant to skin and mucous membranes.

· on the eye: Irritating effect.

• <u>Sensitization:</u> Sensitization possible through skin contact.

· Additional toxicological

information: The product shows the following dangers according to internally approved

calculation methods for preparations:

Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

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NTP (National Toxicology Program)

None of the ingredients is listed.

### 12 Ecological information

#### · Toxicity

· Aquatic toxicity:

### 25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)

EC50/24h 1.1-3.6 mg/l (daphnia magna)

EC50/48h 2.8 mg/l (daphnia magna)

EC50/72h 9.4 mg/l (selenastrum capricornutum)

EC50/96h 220 mg/l (green alge)

3.6 mg/l (Leuciscus idus)

IC50 >100 mg/l (bacteria) LC50/96h 1.3 mg/l (piscis)

1.5 mg/l (Oncorhynchus mykiss) (OECD 203)

1.5-7.7 mg/l (rainbow trout)

NOEC 0.3 mg/kg (daphnia magna) (OECD 211)

### 9003-36-5 reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)

EC50/48h | 1.6 mg/l (daphnia magna) (OECD 202: Part I)

EC50/72h | 1.8 mg/l (green alge) (OECD 201)

IC50 >100 mg/l (bacteria)

LC50/96h | 0.55 mg/l (piscis) (OECD 203)

NOEC 0.3 mg/kg (daphnia magna) (OECD 211)

### • Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential
 Mobility in soil
 No further relevant information available.
 No further relevant information available.

· Ecotoxical effects:

Remark: Toxic for fish

· Additional ecological information:

• General notes: Do not allow product to reach ground water, water course or sewage system.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

Water hazard class 2 (Self-assessment): hazardous for water

· Results of PBT and vPvB assessment

 $\begin{array}{ccc} \cdot \underline{\mathsf{PBT:}} & & \mathsf{Not applicable.} \\ \cdot \underline{\mathsf{vPvB:}} & & \mathsf{Not applicable.} \end{array}$ 

• Other adverse effects No further relevant information available.

### 13 Disposal considerations

· Waste treatment methods

· Recommendation: Must not be disposed of together with household garbage. Do not allow product

to reach sewage system.

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· Uncleaned packagings:

• Recommendation: Empty contaminated packagings thoroughly. They can be recycled after

thorough and proper cleaning.

#### 14 Transport information

14 Transport information	
· UN-Number	
· DOT, ADR, IMDG, IATA	UN3082
· UN proper shipping name	
· DOT	Environmentally hazardous substances, liquid, n.o.s. (reaction
· <u>ADR</u>	product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)) 3082 Environmentally hazardous substances, liquid, n.o.s. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), reaction product: bisphenol F-(epi-
· <u>IMDG</u>	chlorhydrin); epoxy resin (number average molecular weight ≤ 700)) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), reaction product: bisphenol F-(epi-
· <u>IATA</u>	chlorhydrin); epoxy resin (number average molecular weight ≤ 700)), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700))
· Transport hazard class(es)	
· DOT, IMDG, IATA	
· <u>Class</u> · <u>Label</u>	<ul><li>9 Miscellaneous dangerous substances and articles.</li><li>9</li></ul>
·ADR	
· Class	9 (M6) Miscellaneous dangerous substances and articles
· <u>Label</u>	9
· <u>Packing group</u> · <u>DOT, ADR, IMDG, IATA</u>	III
Environmental hazards:     Marine pollutant:	Product contains environmentally hazardous substances: Yes Symbol (fish and tree)
<ul> <li>Special marking (ADR):</li> <li>Special marking (IATA):</li> </ul>	Symbol (fish and tree) Symbol (fish and tree)
Special precautions for user     Danger code (Kemler):	Warning: Miscellaneous dangerous substances and articles 90
	<del></del>

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· Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code

Not applicable.

- · Transport/Additional information:
- · DOT
- · Remarks:

Special marking with the symbol (fish and tree).

· UN "Model Regulation":

UN3082, Environmentally hazardous substances, liquid, n.o.s. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number average molecular weight  $\leq$  700)), 9, III

15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Sara
- · Section 355 (extremely hazardous substances):

None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

- · Proposition 65
- · Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

- · Cancerogenity categories
- · EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Product related hazard

informations:

The product has been classified and marked in accordance with directives on hazardous materials.

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· Hazard symbols:

Xi Irritant

N Dangerous for the environment

· Hazard-determining components

of labeling:

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average

molecular weight = 700)

reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number average

molecular weight ≤ 700) 1.6-hexanediol diglycidyl ether

Irritating to eyes and skin. · Risk phrases:

May cause sensitization by skin contact.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic

environment

· Safety phrases: Keep out of the reach of children.

Do not breathe vapour.

Avoid contact with skin and eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek

medical advice.

Do not empty into drains, dispose of this material and its container at hazardous

or special waste collection point

Wear suitable protective clothing, gloves and eye/face protection. In case of insufficient ventilation, wear suitable respiratory equipment.

If swallowed, seek medical advice immediately and show this container or label.

Use only in well-ventilated areas.

· Special labeling of certain

preparations:

Contains epoxy constituents. See information supplied by the manufacturer.

· National regulations:

· Information about limitation of use: Employment restrictions concerning pregnant and lactating women must be

observed.

Employment restrictions concerning young persons must be observed.

· Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.

· VOC USA  $0.0 \, g/I$ 

 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

#### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing MSDS: Laboratory

Dieter Zimmermann · Contact:

Elke Hake

Fon ++49 (0)911 64296-59 @mail E.Hake@akemi.de

01/22/2014 / -· Date of preparation / last revision

· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de

fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European

Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent