Safety Data Sheet acc. to OSHA HCS

Printing date 04/07/2015 Reviewed on 04/07/2015

1 Identification

· Product identifier

· Trade name: K-Bond Buff Flowing

Buff F Article number:

· Relevant identified uses of the substance or mixture and uses

advised against

No further relevant information available.

Application of the substance / the

Reaction resin mixture

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier: InnoChem LLC Phone: 770-409-8789

4030 Pleasantdale Road Fax: 770-409-9096 Suite F e-mail info@innochemllc.com

Doraville, GA 30340

· Information department: Laboratory

Refer to Manufacturer / Supplier · Emergency telephone number:

2 Hazard(s) identification

· Classification of the substance or mixture



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 Health hazard

H351 Suspected of causing cancer. Carc. 2

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 1 H372 Causes damage to the hearing organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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



Harmful by inhalation. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child.



Irritating to eyes, respiratory system and skin.

Flammable.

Information concerning particular

hazards for human and

Vapours of the product are heavier than air and may accumulate on the ground, environment:

in mines, drains or cellars with higher concentration.

Contact with skin and inhalation of aerosols/ vapours of the preparation should

be avoided.

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.

· Classification system: The classification was made according to the latest editions of international

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

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acc. to OSHA HCS

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Trade name: K-Bond Buff Flowing

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· Label elements

• GHS label elements The product is classified and labeled according to the Globally Harmonized

System (GHS).

· Hazard pictograms



GHS02 GHS07 GH

- Signal word Danger

- Hazard-determining components

of labeling:

styrene

titanium dioxide

· Hazard statements H226 Flammable liquid and vapour.

H315 Causes skin irritation. H319 Causes serious eye irritation. H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or the unborn child.

H372 Causes damage to the hearing organs through prolonged or repeated

exposure.

Precautionary statements P210 Keep away from heat/sparks/open flames/hot surfaces. - No

smoking.

P260 Do not breathe vapours.

P280 Wear protective gloves/protective clothing/eye protection/face

protection.

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.

P314 Get medical advice/attention if you feel unwell.

P405 Store locked up.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local/

regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)



Health = 1 Fire = 3 Reactivity = 0

· HMIS-ratings (scale 0 - 4)

HEALTH *1
FIRE 3
REACTIVITY 0

Health = *1 Fire = 3 Reactivity = 0

• Other hazards During processing and product hardening the network generator is released as

fume. Consequently, take care for adequate air conditioning and for fume

exhaustion on request.

· Results of PBT and vPvB assessment

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

3 Composition/information on ingredients

· Chemical characterization: Mixtures

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

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acc. to OSHA HCS

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Trade name: K-Bond Buff Flowing (Contd. of page 2) · Dangerous components: CAS: 100-42-5 25-50% styrene 🗶 Xn R20-48/20-63; 🗶 Xi R36/37/38 EINECS: 202-851-5 R10 Index number: 601-026-00-0 Repr. Cat. 3 ô Flam. Lig. 3, H226 🚵 Carc. 2, H351; Repr. 2, H361; STOT RE 1, H372 Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319 CAS: 13463-67-7 titanium dioxide 1-5% EINECS: 236-675-5 & Carc. 2, H351 CAS: 112926-00-8 Silica, Gel <1% Additional information: For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

· Description of first aid measures

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

Position and transport stably on side.

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical

observation for at least 48 hours after the accident.

· After inhalation: Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Consult doctor if symptoms persist.

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: If symptoms persist consult doctor.

• Information for doctor: With reference to section 2 the formulation contains styrene in the indicated

mass concentration range. Styrene fumes will preferably be incorporated by inhalation via respiratory tract, skin resorption is currently considered as an inferior way of incorporation. In case of inhalation styrene is absorbed in a 60-90% range. Distribution in organism occurs rapidly, the maximum blood concentration can be analyzed after one hour after incorporation. Styrene exposition affects skin, mucous membranes, and central nervous system (CNS).

Acute damages / risks to health:

In case of styrene poisoning mainly damages to and interactions with central nervous system (CNS) arise. In concentration ranges above 200 ml/m3 symptoms such as fatigue, nausea, imbalance and prolonged response times are observed.

Chronical health risks:

Effects at central and peripheral nervous system and respiratory tract are evident in literature.

Main health risks are:

- prolonged response times

- reduced cognitive performance, partial amnesia
- retardation of nervous impulse transition speed
- disturbances of pulmonary function

 Most important symptoms and effects, both acute and delayed

Breathing difficulty

Headache Dizziness Coughing Nausea

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Trade name: K-Bond Buff Flowing

- <u>Danger</u> Danger of

 Indication of any immediate medical attention and special

treatment needed

Danger of impaired breathing.

If swallowed, gastric irrigation with added, activated carbon.

5 Fire-fighting measures

Extinguishing media

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

alcohol resistant foam.

· For safety reasons unsuitable

extinguishing agents:

Water with full jet

· 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) Nitrogen oxides (NOx)

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

· Advice for firefighters

· Protective equipment:

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

Wear fully protective suit.

Mount respiratory protective device.

· Additional information Dispose of fire debris and contaminated fire fighting water in accordance with

official regulations.

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

system.

6 Accidental release measures

Personal precautions, protective equipment and emergency

procedures

Ensure adequate ventilation

Keep away from ignition sources

Use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective equipment. Keep unprotected persons away.

• Environmental precautions: 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).

Dispose contaminated material as waste according to item 13.

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.

Keep away from heat and direct sunlight.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier

than air).

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Use only in well ventilated areas.

Ensure good ventilation/exhaustion at the workplace.

Information about protection

against explosions and fires: Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· 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 oxidizing agents.

Store away from foodstuffs.

Further information about storage

conditions:

Store receptacle in a well ventilated area.

Keep receptacle tightly sealed.

Storage class:

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

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:

100-42-5 styrene

PEL Long-term value: 100 ppm

Ceiling limit value: 200: 600* ppm

*5-min peak in any 3 hrs

Short-term value: 425 mg/m³, 100 ppm

Long-term value: 215 mg/m³, 50 ppm

Short-term value: 170 mg/m³, 40 ppm Long-term value: 85 mg/m³, 20 ppm

BEI

112926-00-8 Silica, Gel

PEL 20mppcf or 80mg/m3 /%SiO2

REL Long-term value: 6 mg/m³ See Pocket Guide App. C

TLV | TLV withdrawn

· Ingredients with biological limit values:

100-42-5 styrene

BEI 400 mg/g creatinine

Medium: urine Time: end of shift

Parameter: Mandelic acid plus phenylglyoxylic acid (nonspecific)

0.2 mg/L

Medium: venous blood Time: end of shift

Parameter: Styrene (semi-quantitative)

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

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Trade name: K-Bond Buff Flowing

(Contd. of page 5)

· Exposure controls

· Personal protective equipment:

· General protective and hygienic

measures:

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

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. Short term filter device:

· Breathing equipment:

Filter A/P2

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.

· Protection of hands:

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

Preventive skin protection by use of skin-protecting agents is recommended. 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

Fluorocarbon rubber (Viton)

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.

· For the permanent contact gloves made of the following materials are suitable:

Fluorocarbon rubber (Viton) Vitoject (KCL, Art No. 890)

· As protection from splashes gloves made of the following materials are suitable:

Fluorocarbon rubber (Viton) Vitoject (KCL, Art No. 890)

Nitrile rubber, NBR

Camatril (KCL, 730, 731, 732, 733)

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Trade name: K-Bond Buff Flowing

Butyl rubber, BR

Butoject (KCL, Art No. 897, 898)

Not suitable are gloves made of
 the following materials:

the following materials:

Natural rubber, NR 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: Fluid
Color: Yellow
Odor: Aromatic

· Change in condition

Melting point/Melting range: Undetermined. Boiling point/Boiling range: 145 °C (293 °F)

· Flash point: 31 °C (88 °F)

· Ignition temperature: 480 °C (896 °F)

· Auto igniting: Product is not selfigniting.

• <u>Danger of explosion:</u> Product is not explosive. However, formation of explosive air/vapor mixtures are

possible.

Explosion limits:

Lower: 1.2 Vol % Upper: 8.9 Vol %

· Vapor pressure at 20 °C (68 °F): 6 hPa (5 mm Hg)

· <u>Density:</u> Not determined.

Specific gravity at 20 °C (68 °F): 1.16 g/cm³ (9.68 lbs/gal)

· Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

Viscosity:

Dynamic: Not determined. Kinematic: Not determined.

· Solvent content:

Organic solvents: 32.4 %

Solids content: 85.5 %

• Other information No further relevant information available.

10 Stability and reactivity

· Reactivity

Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

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Trade name: K-Bond Buff Flowing

· Possibility of hazardous

reactions Exothermic polymerization.

Reacts with strong oxidizing agents.

Reacts with strong alkali. Reacts with strong acids.

Reacts with peroxides and other radical forming substances.

· Conditions to avoid · Incompatible materials: Hazardous decomposition No further relevant information available. No further relevant information available.

Hydrogen chloride (HCI) Nitrogen oxides (NOx)

Carbon monoxide and carbon dioxide

Possible in traces.

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

products:

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimates)			
Oral	LD50	15434 mg/kg (rat)	
Dermal	LD50	15434 mg/kg (rat) 6174 mg/kg (rat)	
Inhalative	LC50/4 h	33.9 mg/l (rat)	

ı		,	
I	Oral		5000 mg/kg (rat)
ı	Dermal	LD50	>2000 mg/kg (rat) (OECD-Prüfrichtlinie 402)
ı			11.8 mg/l (rat)
ı		LC50/4h	9.5 mg/m3 (mouse)
l		NOAEC	4.34 mg/l (rat)

· Primary irritant effect:

100-42-5 styrene

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

· on the eye: Irritating effect.

· Sensitization: Sensitization possible through skin contact.

· Experience with humans: After incorporation and inhalation styrene predominantly will be metabolized in the organism to mandelic and phenylglyoxylic acid and matabolites will pass

through urine excretion.

· Additional toxicological

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

calculation methods for preparations:

Harmful Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)		
100-42-5	styrene	2B
13463-67-7	titanium dioxide	2B
7631-86-9	silicon dioxide, chemically prepared	3
112926-00-8	Silica, Gel	3
· NTP (National Toxicology Program)		

100-42-5 styrene

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Trade name: K-Bond Buff Flowing

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· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

· Toxicity

	· Aquatic toxicity:		
100-42-5 st			
EC10	0.28 mg/l (Pseudokirchneriella subcapitata) (EPA OTS 797.1050)		
	16h 72 mg/l (pseudomonas putida)		
	140 mg/l (BES) (OECD 209)		
EC50	500 mg/l (BES) (ISO Vorschrift 8192-1986 E)		
	5.5 mg/l (Photobac. phosphoreum)		
EC50/16h	> 72.0 mg mg/l (pseudomonas putida)		
	48h 0.56 mg/l (green alge)		
	4.7 mg/l (daphnia magna)		
EC50/72h	0.46-4.9 mg/l (Pseudokirchneriella subcapitata)		
EC50/72u	>1-<10 mg/l (green alge)		
EC50/8d	> 200 mg/l (Scenedesmus quadricauda)		
EC50/96h	0.15-3.2 mg/l (Pseudokirchneriella subcapitata)		
IC5/8d	> 200 mg/l (Scenedesmus quadricauda)		
IC50/72h	2h 4.9 mg/l (green alge)		
	1.4 mg mg/l (selenastrum capricornutum)		
LC50/72h	4.9 mg/l (green alge)		
LC50/96h	>1-<10 mg/l (piscis)		
	25.0 mg/l (lem)		
	32 mg/l (pimephales promelas)		
	4.02 mg/l (Pimephales promelas)		
	58.75-95.32 mg/l (poecilia reticulata)		

• 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.

· Additional ecological information:

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

· Results of PBT and vPvB assessment

PBT: Not applicable.√P∨B: Not applicable.

• 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.

· Uncleaned packagings:

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

thorough and proper cleaning.

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Trade name: K-Bond Buff Flowing

• Recommended cleansing agent: Alcohol

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14 Transport information

· UN-Number		
· DOT, ADR, IMDG, IATA	UN3269	

· UN proper shipping name

 DOT
 Polyester resin kit

 ⋅ ADR
 3269 Polyester resin kit

 ⋅ IMDG, IATA
 POLYESTER RESIN KIT

· Transport hazard class(es)

· DOT



· <u>Class</u> 3 Flammable liquids

· Label 3

· ADR



 \cdot <u>Class</u> 3 (F1) Flammable liquids

· Label 3

· IMDG, IATA



· <u>Class</u> 3 Flammable liquids

- Label

· Packing group

· DOT, ADR, IMDG, IATA

· Environmental hazards:

· Marine pollutant: No

· Special precautions for user Warning: Flammable liquids

Danger code (Kemler):

· EMS Number: F-E,S-E

· Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code Not applicable.

· Transport/Additional information:

· ADR

· Excepted quantities (EQ) Code: See

· IMDG

· Limited quantities (LQ) 5I

Excepted quantities (EQ)
 Code: See SP340

• UN "Model Regulation": UN3269, Polyester resin kit, 3, III

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acc. to OSHA HCS

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Trade name: K-Bond Buff Flowing

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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):

100-42-5 styrene

· TSCA (Toxic Substances Control Act):

100-42-5 styrene

13463-67-7 titanium dioxide

7631-86-9 silicon dioxide, chemically prepared

21645-51-2 aluminium hydroxide

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

13463-67-7 titanium dioxide

· 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)

100-42-5	styrene	A4
13463-67-7	titanium dioxide	A4
1344-28-1	aluminium oxide	A4
1314-23-4	zirconium dioxide	A4

· MAK (German Maximum Workplace Concentration)		
100-42-5	styrene	5
13463-67-7	titanium dioxide	3A
1344-28-1	aluminium oxide	2

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

13463-67-7 titanium dioxide

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms





GHS02 GHS07 GHS08

Signal word

Danger

· Hazard-determining components of labeling:

styrene

titanium dioxide

H226 Flammable liquid and vapour. · Hazard statements

H315 Causes skin irritation.

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Trade name: K-Bond Buff Flowing

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H319 Causes serious eye irritation. H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or the unborn child.

H372 Causes damage to the hearing organs through prolonged or repeated

exposure.

• <u>Precautionary statements</u> P210 Keep away from heat/sparks/open flames/hot surfaces. - No

smoking.

P260 Do not breathe vapours.

P280 Wear protective gloves/protective clothing/eye protection/face

protection.

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.

P314 Get medical advice/attention if you feel unwell.

P405 Store locked up.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local/

regional/national/international regulations.

· National regulations:

· Information about limitation of use: Employment restrictions concerning young persons must be observed.

Employment restrictions concerning pregnant and lactating women must be

observed.

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

· VOC USA 324.0 g/l / 2.70 lb/gl

· 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 SDS:

Laboratory

Date of preparation / last revision

04/07/2015 / 1

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 Organisation

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

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

Flam. Liq. 3: Flammable liquids, Hazard Category 3 Acute Tox. 4: Acute toxicity, Hazard Category 4 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

Carc. 2: Carcinogenicity, Hazard Category 2 Repr. 2: Reproductive toxicity, Hazard Category 2

STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

· International Product Registration

Status AUS (Australian Inventory of Chemical Substances, AICS)

CDN (Canadian Domestic Substances List, DSL) ROK (Korean Existing Chemical Inventory, ECI)

US