

SAFETY DATA SHEETS

This SDS packet was issued with item:

077244817

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

077244841

according to Regulation (EC) No 1907/2006

ParaBond Adhesive B

Revision date: 20.04.2015

Print date: 22.02.2018

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

ParaBond Adhesive B

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

for dental use only

1.3. Details of the supplier of the safety data sheet

Company name: COLTENE/Whaledent AG
Street: Feldwiesenstrasse 20
Place: CH-9450 Altstätten
Telephone: +41 (71) 75 75 300
Telefax: +41 (71) 75 75 301
e-mail: info.ch@coltene.com
Internet: www.coltene.com
Responsible Department: Regulatory Affairs
msds@coltene.com

1.4. Emergency telephone number: +41 (0) 44 251 51 51 - Tox Info Suisse (24 h)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:
Flammable liquid: Flam. Liq. 2
Hazard Statements:
Highly flammable liquid and vapour.

2.2. Label elements**Regulation (EC) No. 1272/2008**

Signal word: Danger

Pictograms:

**Hazard statements**

H225 Highly flammable liquid and vapour.

Precautionary statements

P233 Keep container tightly closed.

Additional advice on labelling

Medical devices as defined in Directive 93/42/EEC and which are invasive or used in direct physical contact with the human body, are exempted from the provisions of Regulation (EC) No 1272/2008 (CLP/GHS) usually if they are in the finished state and intended for the final user.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

according to Regulation (EC) No 1907/2006

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
64-17-5	ethanol, ethyl alcohol			85 - < 90 %
	200-578-6	603-002-00-5		
	Flam. Liq. 2; H225			

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

SECTION 4: First aid measures**4.1. Description of first aid measures****After inhalation**

Provide fresh air.

After contact with skin

After contact with skin, wash immediately with: Water and soap.

After contact with eyes

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

After ingestion

Seek medical advice.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**Water spray. Foam. Extinguishing powder. Carbon dioxide (CO₂). Sand.**Additional information**

Co-ordinate fire-fighting measures to the fire surroundings.

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

Remove all sources of ignition. Provide adequate ventilation. Remove persons to safety.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Wipe up with absorbent material (eg. cloth, fleece). Clear contaminated areas thoroughly.

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Avoid contact with skin and eyes.

for professional use only Keep out of the reach of children.

Observe instructions for use.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

Further information on handling

After use replace the closing cap immediately.

7.2. Conditions for safe storage, including any incompatibilities

according to Regulation (EC) No 1907/2006

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Requirements for storage rooms and vessels

Keep container tightly closed and in a well-ventilated place.

Further information on storage conditions

Recommended storage temperature: 4 - 8 °C

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

8.2. Exposure controls**Protective and hygiene measures**

When using do not eat, drink or smoke.

Eye/face protection

Framed glasses.

Hand protection

Single-use gloves.

Skin protection

Lab apron.

Respiratory protection

Provide adequate ventilation.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	colourless
Odour:	characteristic

Test method**Changes in the physical state**

Initial boiling point and boiling range:	78 - 80 °C
Flash point:	15 °C
Lower explosion limits:	3.5 vol. %
Upper explosion limits:	19 vol. %
Density:	0.84 g/cm ³
Water solubility:	easily soluble.

SECTION 10: Stability and reactivity**10.4. Conditions to avoid**

heat.

10.5. Incompatible materials

Oxidizing agents.

SECTION 11: Toxicological information

according to Regulation (EC) No 1907/2006

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11.1. Information on toxicological effects**Acute toxicity**

Based on available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-17-5	ethanol, ethyl alcohol				
	oral	LD50 6200 mg/kg	Rat	IUCLID	
	inhalative (4 h) vapour	LC50 95,6 mg/l	Rat	RTECS	

Irritation and corrosivity

Hazards identification: Frequently or prolonged contact with skin may cause dermal irritation.

Sensitising effects

Based on available data, the classification criteria are not met.

SECTION 12: Ecological information**12.1. Toxicity**

CAS No	Chemical name				
	Aquatic toxicity	Dose	[h] [d]	Species	Source
64-17-5	ethanol, ethyl alcohol				
	Acute crustacea toxicity	EC50 9268 - 14221 mg/l	48 h	Daphnia magna	IUCLID

12.3. Bioaccumulative potential**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
64-17-5	ethanol, ethyl alcohol	-0,31

Further information

According to the criteria of the EC-classification and labelling "dangerous for the environment" (93/21/EEC) the material/product is not to be classified as dangerous to the environment.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Advice on disposal**

Can be burnt together with household waste in compliance with official regulations in contact with approved waste disposal companies and with authorities in charge.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number:	UN 1170
14.2. UN proper shipping name:	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Classification code:	F1
Limited quantity:	LQ4

according to Regulation (EC) No 1907/2006

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Hazard No: 33

Other applicable information (land transport)

Special provisions: 274

E3

: 1

D/E

Special provisions: 274 601 640C

E2

: 2

Special provisions: 640C

Special provisions: 144 601

Marine transport (IMDG)**14.1. UN number:** UN 1170**14.2. UN proper shipping name:** ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)**14.3. Transport hazard class(es):** 3**14.4. Packing group:** II

Hazard label: 3

Limited quantity: 3 L

EmS: F-E, S-D

Other applicable information (marine transport)

Special provisions: 274, 330, 944

Special provisions: 944

Special provisions: 144, 330

Air transport (ICAO-TI/IATA-DGR)**14.1. UN number:** UN 1170**14.2. UN proper shipping name:** ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)**14.3. Transport hazard class(es):** 3**14.4. Packing group:** II

Hazard label: 3

Limited quantity Passenger: 1 L

IATA-packing instructions - Passenger: 305

IATA-max. quantity - Passenger: 5 L

IATA-packing instructions - Cargo: 307

IATA-max. quantity - Cargo: 60 L

Other applicable information (air transport)

E2

: Y305

60 L

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information****Additional information**

SECTION 16: Other information**Relevant H and EUH statements (number and full text)**

H225 Highly flammable liquid and vapour.

according to Regulation (EC) No 1907/2006

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Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

according to Regulation (EC) No 1907/2006

ParaBond Adhesive A

Revision date: 06.05.2015

Print date: 22.02.2018

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

ParaBond Adhesive A

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

for dental use only

1.3. Details of the supplier of the safety data sheet

Company name: COLTENE/Whaledent AG
Street: Feldwiesenstrasse 20
Place: CH-9450 Altstätten
Telephone: +41 (71) 75 75 300
Telefax: +41 (71) 75 75 301
e-mail: info.ch@coltene.com
Internet: www.coltene.com
Responsible Department: Regulatory Affairs
msds@coltene.com

1.4. Emergency telephone number: +41 (0) 44 251 51 51 - Tox Info Suisse (24 h)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Flammable liquid: Flam. Liq. 2

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Skin Sens. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Highly flammable liquid and vapour.

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye irritation.

May cause respiratory irritation.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

2-hydroxyethyl methacrylate

dibenzoyl peroxide; benzoyl peroxide

Signal word: Danger**Pictograms:****Hazard statements**

H225

Highly flammable liquid and vapour.

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

according to Regulation (EC) No 1907/2006

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H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.

Additional advice on labelling

Medical devices as defined in Directive 93/42/EEC and which are invasive or used in direct physical contact with the human body, are exempted from the provisions of Regulation (EC) No 1272/2008 (CLP/GHS) usually if they are in the finished state and intended for the final user.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
868-77-9	2-hydroxyethyl methacrylate			30 - < 35 %
	212-782-2	607-124-00-X		
	Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1; H319 H315 H317			
64-17-5	ethanol, ethyl alcohol			25 - < 30 %
	200-578-6	603-002-00-5		
	Flam. Liq. 2; H225			
1830-78-0	GDMA			20 - < 25 %
	217-388-4			
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 H335			
94-36-0	dibenzoyl peroxide; benzoyl peroxide			1 - < 5 %
	202-327-6	617-008-00-0		
	Org. Perox. B, Eye Irrit. 2, Skin Sens. 1; H241 H319 H317			

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

SECTION 4: First aid measures**4.1. Description of first aid measures****After inhalation**

Provide fresh air.

After contact with skin

After contact with skin, wash immediately with: Water and soap.

After contact with eyes

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

After ingestion

Seek medical advice.

according to Regulation (EC) No 1907/2006

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SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**Water spray. Foam. Extinguishing powder. Carbon dioxide (CO₂). Sand.**Additional information**

Co-ordinate fire-fighting measures to the fire surroundings.

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

Remove all sources of ignition. Provide adequate ventilation. Remove persons to safety.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Wipe up with absorbent material (eg. cloth, fleece). Clear contaminated areas thoroughly.

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Avoid contact with skin and eyes.

for professional use only Keep out of the reach of children.

Observe instructions for use.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

Further information on handling

After use replace the closing cap immediately.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed and in a well-ventilated place.

Further information on storage conditions

Recommended storage temperature: 4 - 8 °C

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
94-36-0	Dibenzoyl peroxide	-	5		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

8.2. Exposure controls**Protective and hygiene measures**

When using do not eat, drink or smoke.

according to Regulation (EC) No 1907/2006

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Eye/face protection

Framed glasses.

Hand protection

Single-use gloves.

Skin protection

Lab apron.

Respiratory protection

Provide adequate ventilation.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	colourless
Odour:	characteristic

Test method

pH-Value:	6.5
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Changes in the physical state

Density:	1.02 g/cm ³
Water solubility:	partially soluble

Solubility in other solvents

Ethanol.

SECTION 10: Stability and reactivity**10.2. Chemical stability**

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

10.4. Conditions to avoid

heat.

10.5. Incompatible materials

Oxidizing agents.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute toxicity**

Based on available data, the classification criteria are not met.

according to Regulation (EC) No 1907/2006

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CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
868-77-9	2-hydroxyethyl methacrylate					
	oral	LD50 mg/kg	5050	Rat		
64-17-5	ethanol, ethyl alcohol					
	oral	LD50 mg/kg	6200	Rat	IUCLID	
	inhalative (4 h) vapour	LC50	95,6 mg/l	Rat	RTECS	
1830-78-0	GDMA					
	oral	LD50 mg/kg	>2000	Rat		OECD 423

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. (2-hydroxyethyl methacrylate), (dibenzoyl peroxide; benzoyl peroxide)

STOT-single exposure

May cause respiratory irritation.

SECTION 12: Ecological information**12.1. Toxicity**

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
868-77-9	2-hydroxyethyl methacrylate					
	Acute fish toxicity	LC50 227 mg/l	96 h	Pimephales promelas		
64-17-5	ethanol, ethyl alcohol					
	Acute crustacea toxicity	EC50 9268 - 14221 mg/l	48 h	Daphnia magna	IUCLID	
1830-78-0	GDMA					
	Acute fish toxicity	LC50 43.2 mg/l	96 h	Poecilia reticulata (Guppy)		

12.3. Bioaccumulative potential**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
868-77-9	2-hydroxyethyl methacrylate	0,47
64-17-5	ethanol, ethyl alcohol	-0,31

Further information

According to the criteria of the EC-classification and labelling "dangerous for the environment" (93/21/EEC) the material/product is not to be classified as dangerous to the environment.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Advice on disposal**

Can be burnt together with household waste in compliance with official regulations in contact with approved

according to Regulation (EC) No 1907/2006

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waste disposal companies and with authorities in charge.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number:	UN 1170
14.2. UN proper shipping name:	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Classification code:	F1
Limited quantity:	LQ4
Hazard No:	33

Other applicable information (land transport)

Special provisions: 274
E3
: 1
D/E
Special provisions: 274 601 640C
E2
: 2
Special provisions: 640C
Special provisions: 144 601

Marine transport (IMDG)

14.1. UN number:	UN 1170
14.2. UN proper shipping name:	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Limited quantity:	3 L
EmS:	F-E, S-D

Other applicable information (marine transport)

Special provisions: 274, 330, 944
Special provisions: 944
Special provisions: 144, 330

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	UN 1170
14.2. UN proper shipping name:	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Limited quantity Passenger:	1 L
IATA-packing instructions - Passenger:	305
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	307
IATA-max. quantity - Cargo:	60 L

Other applicable information (air transport)

E2
: Y305
60 L

according to Regulation (EC) No 1907/2006

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SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information****Additional information**

SECTION 16: Other information**Relevant H and EUH statements (number and full text)**

H225	Highly flammable liquid and vapour.
H241	Heating may cause a fire or explosion.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

ParaBond Non-Rinse Conditioner

Coltène/Whaledent AG

Version No: 1.1

Safety Data Sheet according to WHMIS 2015 requirements

Issue Date: **16/03/2022**

Print Date: **26/01/2023**

L.GHS.CAN.EN

SECTION 1 Identification

Product Identifier

Product name	ParaBond Non-Rinse Conditioner
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Medical device, for dental use only Use according to manufacturer's directions.
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Coltène/Whaledent AG
Address	Feldwiesenstrasse 20 Altstätten CH-9450 Switzerland
Telephone	+41 (71) 75 75 300
Fax	+41 (71) 75 75 301
Website	www.coltene.com
Email	msds@coltene.com

Emergency phone number

Association / Organisation	CHEMWATCH EMERGENCY RESPONSE
Emergency telephone numbers	+1 867 670 2867
Other emergency telephone numbers	+61 3 9573 3188

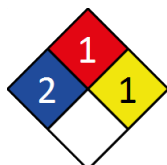
Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

ParaBond Non-Rinse Conditioner



Classification	Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1
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Label elements

Hazard pictogram(s)



Signal word	Warning
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Hazard statement(s)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P280	Wear protective gloves and protective clothing.
P261	Avoid breathing mist/vapours/spray.
P264	Wash all exposed external body areas thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
868-77-9	40-50	<u>2-hydroxyethyl methacrylate</u>
15214-89-8	5-10	<u>2-acrylamido-2-methyl-1-propanesulfonic acid</u>

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact

If this product comes in contact with the eyes:

- ▶ Wash out immediately with fresh running water.
- ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

ParaBond Non-Rinse Conditioner

	<ul style="list-style-type: none"> ▸ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none"> ▸ If swallowed do NOT induce vomiting. ▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▸ Observe the patient carefully. ▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▸ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none"> ▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear full body protective clothing with breathing apparatus. ▸ Prevent, by any means available, spillage from entering drains or water course. ▸ Use water delivered as a fine spray to control fire and cool adjacent area. ▸ Avoid spraying water onto liquid pools. ▸ DO NOT approach containers suspected to be hot. ▸ Cool fire exposed containers with water spray from a protected location. ▸ If safe to do so, remove containers from path of fire.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▸ Combustible. ▸ Slight fire hazard when exposed to heat or flame. ▸ Acids may react with metals to produce hydrogen, a highly flammable and explosive gas. ▸ Heating may cause expansion or decomposition leading to violent rupture of containers. ▸ May emit acrid smoke and corrosive fumes. <p>Combustion products include:</p> <ul style="list-style-type: none"> , carbon dioxide (CO₂) , nitrogen oxides (NO_x) , other pyrolysis products typical of burning organic material. <p>May emit clouds of acrid smoke May emit poisonous fumes. May emit corrosive fumes.</p>

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

ParaBond Non-Rinse Conditioner

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.
Major Spills	<p>Moderate hazard.</p> <ul style="list-style-type: none"> Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. No smoking, naked lights or ignition sources. Increase ventilation. Stop leak if safe to do so. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite. Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. Avoid smoking, naked lights or ignition sources. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions. DO NOT allow clothing wet with material to stay in contact with skin
Other information	<ul style="list-style-type: none"> Store in original containers. Keep containers securely sealed. No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container	<p>Recommended storage temperature: 4 - 8 °C</p> <ul style="list-style-type: none"> Lined metal can, lined metal pail/ can. Plastic pail. Polyliner drum. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks. Metal can or drum Packaging as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<ul style="list-style-type: none"> Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air. Avoid strong bases. Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

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Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
2-hydroxyethyl methacrylate	1.9 mg/m ³	21 mg/m ³	1,000 mg/m ³

Ingredient	Original IDLH	Revised IDLH
2-hydroxyethyl methacrylate	Not Available	Not Available
2-acrylamido-2-methyl-1-propanesulfonic acid	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
2-hydroxyethyl methacrylate	E	≤ 0.1 ppm
2-acrylamido-2-methyl-1-propanesulfonic acid	E	≤ 0.01 mg/m ³

Notes:

Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

MATERIAL DATA

Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no-observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five-category system based on intensive odour, local irritation, and elimination half-life. However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.

OSHA (USA) concluded that exposure to sensory irritants can:

- cause inflammation
- cause increased susceptibility to other irritants and infectious agents
- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and
- acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

IFRA Prohibited Fragrance Substance

The International Fragrance Association (IFRA) Standards form the basis for the globally accepted and recognized risk management system for the safe use of fragrance ingredients and are part of the IFRA Code of Practice. This is the self-regulating system of the industry, based on risk assessments carried out by an independent Expert Panel

Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen

[National Toxicology Program: U.S. Dep. of Health & Human Services 2002]

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive

American Industrial Hygiene Association Journal 57: 641-649 (1996)

Exposed individuals are **NOT** reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.

The Odour Safety Factor (OSF) is defined as:

OSF = Exposure Standard (TWA) ppm / Odour Threshold Value (OTV) ppm

Classification into classes follows:

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Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV-TWA for example) is being reached, even when distracted by working activities
B	26-550	As "A" for 50-90% of persons being distracted
C	1-26	As "A" for less than 50% of persons being distracted
D	0.18-1	10-50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached
E	<0.18	As "D" for less than 10% of persons aware of being tested

NOTE D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed on Annex I

When they are placed on the market in a non-stabilised form, the label must state the name of the substance followed by the words "non-stabilised"

European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP

Exposure controls

Appropriate engineering controls	CARE: Use of a quantity of this material in confined space or poorly ventilated area, where rapid build up of concentrated atmosphere may occur, could require increased ventilation and/or protective gear Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.	
	General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.	
	Type of Contaminant:	Air Speed:
	solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min)
	aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
	direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)
	grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)
	Within each range the appropriate value depends on:	
	Lower end of the range	Upper end of the range
	1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity	
3: Intermittent, low production.	3: High production, heavy use	
4: Large hood or large air mass in motion	4: Small hood-local control only	
Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.		
Personal protection		
Eye and face protection	<ul style="list-style-type: none">▶ Safety glasses with side shields.▶ Chemical goggles.▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should	

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	be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber <p>NOTE:</p> <ul style="list-style-type: none"> ▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical 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.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> · frequency and duration of contact, · chemical resistance of glove material, · glove thickness and · dexterity <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> · When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. · When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. · Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. · Contaminated gloves should be replaced. <p>As defined in ASTM F-739-96 in any application, gloves are rated as:</p> <ul style="list-style-type: none"> · Excellent when breakthrough time > 480 min · Good when breakthrough time > 20 min · Fair when breakthrough time < 20 min · Poor when glove material degrades <p>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</p> <p>It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.</p> <p>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"> · Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. · Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential <p>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p>
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C apron. ▶ Barrier cream. ▶ Skin cleansing cream. ▶ Eye wash unit.

Respiratory protection

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	A-AUS / Class1	-
up to 50	1000	-	A-AUS / Class 1
up to 50	5000	Airline *	-
up to 100	5000	-	A-2
up to 100	10000	-	A-3
100+			Airline**

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* - Continuous Flow ** - Continuous-flow or positive pressure demand

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Colourless		
Physical state	Liquid	Relative density (Water = 1)	1.2
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▸ Stable under controlled storage conditions provided material contains adequate stabiliser / polymerisation inhibitor. ▸ Bulk storages may have special storage requirements ▸ WARNING: Gradual decomposition in strong, sealed containers may lead to a large pressure build-up and subsequent explosion. Rapid and violent polymerisation possible at temperatures above 32 deg c.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	<p>The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</p> <p>Inhalation hazard is increased at higher temperatures.</p>
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	<p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.</p> <p>Acute effects from inhalation of high concentrations of vapour are pulmonary irritation, including coughing, with nausea; central nervous system depression - characterised by headache and dizziness, increased reaction time, fatigue and loss of co-ordination</p>
Ingestion	<p>In animals studies, large single doses or repeated small doses of acrylamide and some of its congeners produce progressive stiffness and/ or weakness of the hind-quarters, urinary retention, ataxia and eventually an inability to stand. The syndrome may develop over days or weeks. Humans exposed to acrylamide monomer develop peripheral neuropathies with mid-brain disturbance and numbness, paraesthesia and weakness, particularly in the lower limbs. Bluish cold hands which dripped sweat, and erythema and peeling of the palms have also been described. Other signs may include dysarthria, tremor, disturbances in gait, visual changes such as reduction of red and green discolouration and a hypertensive retinopathy.</p> <p>Rats fed 300 ppm acrylamide in their diet for up to 90 days showed neurotoxic effects and mortality. At 400 ppm there was marked degeneration of the testicular tubules in males. Treatment-related neuropathies were observed following administration of drinking water containing 1.5 mg/kg daily over 90 days to rats. 20 mg/kg produced severe degenerative lesions of the peripheral nerves</p> <p>Central nervous system (CNS) depression may include nonspecific discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> <p>Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.</p>
Skin Contact	<p>Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period.</p> <p>Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>
Eye	<p>Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.</p> <p>Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.</p>
Chronic	<p>Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals.</p> <p>Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance who are likely to become hyper-responsive.</p> <p>Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing air-way hyper-responsiveness. The latter substances are not classified as asthmagens or respiratory sensitisers</p> <p>Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive.</p> <p>Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance.</p> <p>Repeated or prolonged exposure to acrylamides may result in polyneuropathy that is insidious and distal in onset. The presence of ataxia and, occasionally, dysarthria and tremor suggests central midbrain involvement. Signs and symptoms include weakness, paraesthesias, fatigue, lethargy and decreased pin sensation, vibratory loss, decreased reflexes and positive Romberg sign. Severity is worst in distal portions of the extremities. Desquamation of the palms and soles, sweating and peripheral vasoconstriction are prominent. Recovery typically occurs within several months to a year of cessation of exposure although severe exposures may result in permanent dysfunction</p> <p>The relationship between neurotoxicity and reproductive toxicity for acrylamide and several of its congeners was studied to evaluate the effects in a second generation born of exposed parents dosed from weaning to mating. Dominant lethal effects and neurotoxicity were induced in male rats, with minimal or no effects in females. Depending on the compound, greater effects may or may not be observed in the second generation</p> <p>Chapin, R.E. et al; Fundamental and Applied Toxicology, 27, 9-24, 1995</p> <p>Repeated exposure produces an unusual toxic effect on the central nervous system manifested by muscular weakness, ataxia, incoordination, tremors, and hallucination.</p> <p>Acrylamide is regarded as the experimental model for toxin induced axonopathies, peripheral neuropathies. [Toxic Emergencies; Goldfrank]</p>

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	<p>Acrylamide can be absorbed through unbroken skin, mucous membranes and lungs and the gastro-intestinal tract and is known cause of peripheral neuropathies. [Klaassen et al , 1986]</p> <p>Systemic effects are partly reversible and may appear up to one year after exposure. They include muscular weakness and wasting, decreased reflexes, disturbance of gait and balance, tremors, loss of weight, sleepiness, collapse and emotional changes.</p> <p>The action of acrylamide may arise from its conversion to a more toxic substance (from metabolic processes) due to delayed onset of symptoms.</p> <p>Acrylamide is a potent neurotoxin at very low levels. Chronic acrylamide poisoning can cause midbrain disturbance and peripheral neuropathy.[CHRIS]</p> <p>When administered in the drinking water of experimental animals, acrylamide increased the incidences of adrenal pheochromocytomas and mesotheliomas of the tunica of the testes in male rats; pituitary adenomas mammary adenomas and adenocarcinomas, oral cavity papillomas, uterine adenocarcinomas and clitoral gland adenomas in female rats; and follicular adenomas of the thyroid in both sexes.</p> <p>On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.</p> <p>Sensitisation may give severe responses to very low levels of exposure, in situations where exposure may occur.</p>	
ParaBond Non-Rinse Conditioner	TOXICITY	IRRITATION
	Not Available	Not Available
2-hydroxyethyl methacrylate	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >3000 mg/kg ^[2]	Eye (rabbit): SEVERE *post-exposure
	Oral (Mouse) LD50; 3275 mg/kg ^[2]	Eye: adverse effect observed (irritating) ^[1]
		Skin (rabbit): non-irritating* * Rohm & Haas
2-acrylamido-2-methyl-1-propanesulfonic acid	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[2]	Eye: irritant *Mucous membranes: irritant *
	Oral (Rat) LD50: 1830 mg/kg ^[1]	Skin: irritant *
Legend:	<p>1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances</p>	

2-HYDROXYETHYL METHACRYLATE	Dermal (rabbit): >5000 mg/kg* Effects persist beyond 21 days
2-ACRYLAMIDO-2-METHYL-1-PROPANESULFONIC ACID	<p>* Biorad Laboratories MSDS (CCInfo)</p> <p>For AMPS (2-acrylamido-2-methylpropanesulfonic acid) monomer and its salts</p> <p>Acute toxicity: Results of the acute toxicity studies indicate that the parent 2-acrylamido-2-methylpropanesulfonic anion (AMPS) does not exhibit direct systemic toxicity via the oral or dermal routes of administration. This is evidenced by the high acute oral LD50 seen with experiments using the neutral sodium and ammonium salts of AMPS monomer, and the high LD50 observed following prolonged dermal application of ammonium AMPS. The lower LD50 and adverse clinical findings associated with the oral administration of AMPS acid are attributed to its strongly acidic properties resulting in severe local gastrointestinal reactions and the resulting secondary adverse physiological responses.</p> <p>Subchronic oral toxicity: A 28-day repeated dose oral toxicity test in rats was performed on ammonium AMPS. This study was completed in accordance with OECD guideline 407. There were no deaths in the study, and the most remarkable clinical sign was gastrointestinal unrest manifested by lethargy, emaciation, diarrhea and reduced food consumption in a single male at the highest dose. Otherwise, there were no treatment-related untoward effects on clinical observations, body weight, food consumption, serum chemistry values, hematology values, gross pathological observations or histopathological findings. As a result, the laboratory study director assigned the no-observed-effect-level (NOEL) at 1000 mg/kg/day. The result of this study was deemed reliable without restriction according to the Klimisch criteria. The data in this study are reflective of a low subchronic toxicity index for ammonium AMPS</p> <p>Repeat dose toxicity: Results of the oral repeated dose toxicity testing on ammonium AMPS clearly show that the parent 2-acrylamido-2-methylpropanesulfonic anion is not a cumulative or a reproductive/developmental toxicant. Repeated negative findings at high doses in both a subchronic repeated dose study and a reproductive/ developmental screening assay support this conclusion.</p> <p>Genetic toxicity: Results of the genetic toxicity testing on AMPS acid clearly show that the parent 2-acrylamido-2-methylpropanesulfonic anion is not a mutagen. Repeated negative findings in bacterial both and mammalian <i>in vitro</i> assay systems support this conclusion. The results of the single <i>in vitro</i> chromosomal aberration study are inconclusive. Specifically, the clastogenic effects observed with the metabolic activation of AMPS acid were not replicable and did not follow dose-responsive or time-responsive patterns. Furthermore, the clastogenic events were associated with excessive cytotoxic damage, and therefore may not represent direct genotoxic activity. Consequently, <i>in vivo</i> tests in rats and mice were performed to more reliably describe the cytogenetic toxicity of AMPS. These rodent assays clearly demonstrate the absence of clastogenic potential resulting from the <i>in vivo</i> administration of AMPS acid or ammonium AMPS in mammalian systems. The AMPS anion is not considered to be a clastogen. Since AMPS acid, sodium AMPS and ammonium AMPS are simple salts of the same parent anion, the lack of mutagenicity or <i>in vivo</i> clastogenic activity can be AMPS for acid mists, aerosols, vapours</p>

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	<p>Data from assays for genotoxic activity <i>in vitro</i> suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airways from direct exposure to inhaled acidic mists, just as mucous plays an important role in protecting the gastric epithelium from its auto-secreted hydrochloric acid. In considering whether pH itself induces genotoxic events <i>in vivo</i> in the respiratory system, comparison should be made with the human stomach, in which gastric juice may be at pH 1-2 under fasting or nocturnal conditions, and with the human urinary bladder, in which the pH of urine can range from <5 to > 7 and normally averages 6.2. Furthermore, exposures to low pH <i>in vivo</i> differ from exposures <i>in vitro</i> in that, <i>in vivo</i>, only a portion of the cell surface is subjected to the adverse conditions, so that perturbation of intracellular homeostasis may be maintained more readily than <i>in vitro</i>.</p> <p>The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may produce respiratory tract irritation. Symptoms of pulmonary irritation may include coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and a burning sensation.</p> <p>Unlike most organs, the lung can respond to a chemical insult or a chemical agent, by first removing or neutralising the irritant and then repairing the damage (inflammation of the lungs may be a consequence).</p> <p>The repair process (which initially developed to protect mammalian lungs from foreign matter and antigens) may, however, cause further damage to the lungs (fibrosis for example) when activated by hazardous chemicals. Often, this results in an impairment of gas exchange, the primary function of the lungs. Therefore prolonged exposure to respiratory irritants may cause sustained breathing difficulties.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.</p> <p>Based on the available oncogenicity data and without a better understanding of the carcinogenic mechanism the Health and Environmental Review Division (HERD), Office of Toxic Substances (OTS), of the US EPA previously concluded that all chemicals that contain the acrylate or methacrylate moiety ($\text{CH}_2=\text{CHCOO}$ or $\text{CH}_2=\text{C}(\text{CH}_3)\text{COO}$) should be considered to be a carcinogenic hazard unless shown otherwise by adequate testing.</p> <p>This position has now been revised and acrylates and methacrylates are no longer <i>de facto</i> carcinogens.</p>
ParaBond Non-Rinse Conditioner & 2-HYDROXYETHYL METHACRYLATE	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.</p>
2-HYDROXYETHYL METHACRYLATE & 2-ACRYLAMIDO-2-METHYL-1-PROPANESULFONIC ACID	<p>Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.</p>

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✓	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✓	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

ParaBond Non-Rinse Conditioner	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
2-hydroxyethyl methacrylate	Endpoint	Test Duration (hr)	Species	Value	Source

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	NOEC(ECx)	504h	Crustacea	24.1mg/l	2
	EC50	72h	Algae or other aquatic plants	110mg/l	2
	LC50	96h	Fish	>100mg/l	2
	EC50	48h	Crustacea	210mg/l	2
2-acrylamido-2-methyl-1-propanesulfonic acid	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	170mg/l	2
	EC50	48h	Crustacea	280430mg/l	1
	NOEC(ECx)	48h	Crustacea	78mg/l	1
Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data					

For AMPS (2-acrylamido-2-methylpropanesulfonic acid) monomer and its salts:

Environmental fate:

Biodegradation: Based on available data, all members of the category can be characterised as having a very slow rate of biodegradability

A biodegradation test was conducted on AMPS acid and sodium AMPS using the semi-continuous activated sludge (SCAS) method. In the 44-day test, the biodegradation rate of both test materials was <10% based on dissolved organic carbon measurements. Based on the test results, both these compounds exhibited a very slow rate of biodegradability and are not readily biodegradable. A Modified Sturm Test (OECD 301B) was conducted on ammonium AMPS. In 28 days, 3.3% of the test material was converted to CO₂. Consequently, it was also assessed as exhibiting a very slow rate of biodegradability

Photodegradation: The photodegradation half-life of the AMPS anion due to hydroxy radical reactions is estimated to 0.661 days (12-hr day; 1.5 x 10⁻⁶ OH/cm³). Based on the high water solubility and estimated low vapor pressure for members of this category, atmospheric oxidation is not likely to be a significant degradation pathway.

Hydrolysis: AMPS monomer contains an amide functional group that could potentially hydrolyze into a carboxylic acid and an amine. In general, amides are much less hydrolytically reactive than esters and hydrolysis half-lives can range from hundreds to thousands of years in the aquatic environment. Shelf-life determinations indicated that aqueous solutions of sodium AMPS at pH 9 resist hydrolysis for months under normal storage. The hydrolytic stability likely results from the *gem*-dimethyl substitution adjacent to the amide group. AMPS monomer is a strong acid. Aqueous solutions of 2-acrylamido-2-methylpropanesulfonic anion will eventually hydrolyse to two weak acids, acrylic acid and beta,beta-dimethyltaurine. At 50 C hydrolysis is negligible; at 80 C the half-life of hydrolysis is about 7 days

Ecotoxicity:

Results of the acute toxicity tests show that the members of the AMPS category are not significantly toxic to aquatic species. The LC50 and EC50 values in the fish and invertebrate toxicity tests respectively, were higher than 100 mg/l. The AMPS acid was slightly more toxic to the test organisms in both fish and invertebrate tests, compared to the sodium and ammonium AMPS. In tests conducted with algae, the EC50 value for ammonium AMPS was greater than 2,000 mg/l. Based on available data, it is apparent that the 2-acrylamido-2-methylpropanesulfonic parent anion is not significantly toxic to aquatic organisms.

Fish LC50 (96 h): 130 mg/l (AMPS acid); >1000 mg/l (sodium AMPS) (EPA-660/3-75-009); 1400 mg/k (ammonium AMPS) (OECD 203)

The acid (anion) is more toxic to fish than the corresponding salts. Sublethal effects at 600 and 1,000-mg/l test solution was observed with the AMPS acid whereas no effects were seen with sodium AMPS.

Daphnia magna EC50 (48 h): 340 mg/l (AMPS acid); >1000 mg/l (sodium AMPS) (EPA-660/3-75-009); 1200 mg/l (ammonium AMPS) (OECD 202)

The acid (anion) is more toxic to aquatic invertebrates than the corresponding salts

Algal EC50 (96 h): >2000 mg/l (OECD 201) (ammonium AMPS)

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
2-hydroxyethyl methacrylate	LOW	LOW
2-acrylamido-2-methyl-1-propanesulfonic acid	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
2-hydroxyethyl methacrylate	LOW (BCF = 1.54)
2-acrylamido-2-methyl-1-propanesulfonic acid	LOW (LogKOW = -2.1935)

Mobility in soil

Ingredient	Mobility
2-hydroxyethyl methacrylate	HIGH (KOC = 1.043)
2-acrylamido-2-methyl-1-propanesulfonic acid	LOW (KOC = 10)

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SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<p>Dispose of waste according to applicable legislation. Special country-specific regulations may apply. Can be disposed together with household waste in compliance with official regulations in contact with approved waste disposal companies and with authorities in charge. (Only dispose of completely emptied packages.)</p> <ul style="list-style-type: none"> ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▶ Where in doubt contact the responsible authority. ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Authority for disposal. ▶ Bury or incinerate residue at an approved site. ▶ Recycle containers if possible, or dispose of in an authorised landfill.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
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Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
2-hydroxyethyl methacrylate	Not Available
2-acrylamido-2-methyl-1-propanesulfonic acid	Not Available

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
2-hydroxyethyl methacrylate	Not Available
2-acrylamido-2-methyl-1-propanesulfonic acid	Not Available

SECTION 15 Regulatory information

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

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

2-hydroxyethyl methacrylate is found on the following regulatory lists

Canada Categorization decisions for all DSL substances
Canada Domestic Substances List (DSL)

Canada Toxicological Index Service - Workplace Hazardous Materials
Information System - WHMIS GHS

2-acrylamido-2-methyl-1-propanesulfonic acid is found on the following regulatory lists

Canada Categorization decisions for all DSL substances

Canada Domestic Substances List (DSL)

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (2-hydroxyethyl methacrylate; 2-acrylamido-2-methyl-1-propanesulfonic acid)
China - IECSC	Yes

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National Inventory	Status
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	<p>Yes = All CAS declared ingredients are on the inventory</p> <p>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</p>

SECTION 16 Other information

Revision Date	16/03/2022
Initial Date	16/12/2021

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit
 IDLH: Immediately Dangerous to Life or Health Concentrations
 ES: Exposure Standard
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors
 BEI: Biological Exposure Index
 AIIC: Australian Inventory of Industrial Chemicals
 DSL: Domestic Substances List
 NDSL: Non-Domestic Substances List
 IECSC: Inventory of Existing Chemical Substance in China
 EINECS: European Inventory of Existing Commercial chemical Substances
 ELINCS: European List of Notified Chemical Substances
 NLP: No-Longer Polymers
 ENCS: Existing and New Chemical Substances Inventory
 KECI: Korea Existing Chemicals Inventory
 NZIoC: New Zealand Inventory of Chemicals
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
 TSCA: Toxic Substances Control Act
 TCSI: Taiwan Chemical Substance Inventory
 INSQ: Inventario Nacional de Sustancias Químicas
 NCI: National Chemical Inventory
 FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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