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

1.1 Product identifier

Trade name : ARALDITE® 64-1

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

Use of the Substance/Mixture : Adhesives and/or sealants

1.3 Details of the supplier of the safety data sheet

Company : Huntsman Advanced Materials (Europe)BVBA
Address : Everslaan 45
3078 Everberg
Belgium
Telephone : +41 61 299 20 41
Telefax : +41 61 299 20 40

E-mail address of person responsible for the SDS : Global_Product_EHS_AdMat@huntsman.com

1.4 Emergency telephone number

Emergency telephone number : EUROPE: +32 35 75 1234
France ORFILA: +33(0)145425959
ASIA: +65 6336-6011
China: +86 20 39377888
+86 532 83889090
India: + 91 22 42 87 5333
Australia: 1800 786 152
New Zealand: 0800 767 437
USA: +1/800/424.9300

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 2	H225: Highly flammable liquid and vapour.
Skin corrosion, Category 1B	H314: Causes severe skin burns and eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2	H341: Suspected of causing genetic defects.
Carcinogenicity, Category 1B	H350: May cause cancer.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.

Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Chronic aquatic toxicity, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :

H225	Highly flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe mist or vapours.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical

advice/ attention.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Disposal:

P501 Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous components which must be listed on the label:
Toluene

phenol

Formaldehyde

Additional Labelling:

Restricted to professional users.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Phenol. polymer with formaldehyde (Polymer)	9003-35-4 Polymer	Skin Sens. 1; H317	>= 30 - < 60
Toluene	108-88-3 203-625-9 601-021-00-3 -	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Asp. Tox. 1; H304 Repr. 2; H361d Aquatic Chronic 3; H412 STOT RE 2; H373 STOT SE 3; H336	>= 10 - < 30
Phenol	108-95-2 203-632-7 604-001-00-2 -	Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 Skin Corr. 1B; H314 Muta. 2; H341 STOT RE 2; H373 Aquatic Chronic 2; H411	>= 3 - < 7
Methanol	67-56-1	Flam. Liq. 2; H225	>= 1 - <

	200-659-6 603-001-00-X 01-2119433307-44	Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 STOT SE 1; H370	3
Formaldehyde	50-00-0 200-001-8 605-001-00-5 01-2119488953-20	Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 Skin Corr. 1B; H314 Skin Sens. 1; H317 Muta. 2; H341 Carc. 1B; H350	>= 0,1 - < 2

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled : Move to fresh air.
Keep patient warm and at rest.
If symptoms persist, call a physician.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Seek medical advice.

If swallowed : Rinse mouth with water.
Do NOT induce vomiting.
Consult a physician if necessary.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Do not use a solid water stream as it may scatter and spread fire.
Do not allow run-off from fire fighting to enter drains or water courses.

May form explosive mixtures in air.
Flash back possible over considerable distance.

Hazardous combustion products : No data is available on the product itself.

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Specific extinguishing methods : No data is available on the product itself.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Wear respiratory protection.
Ensure adequate ventilation.
Evaporates.
Remove all sources of ignition.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Pay attention to flashback.

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.
Do not allow contact with soil, surface or ground water.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Dilute with water.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.
Ventilate the area.

6.4 Reference to other sections

None

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : Ensure that eyewash stations and safety showers are close to

the workstation location.

Local/Total ventilation : Ensure adequate ventilation.

Advice on safe handling : Avoid contact with skin and eyes.
For personal protection see section 8.
Avoid inhalation of vapour or mist.
Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.
Keep away from flames and sparks.
Keep away from heat.
Use only with adequate ventilation.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Normal measures for preventive fire protection. Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Avoid exposure to vapour. Do not inhale aerosol. When using do not eat, drink or smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. No smoking.

Recommended storage temperature : 2 - 40 °C

Other data : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Ethanol	64-17-5	TWA	1 000 ppm	GB EH40

			1 920 mg/m3	
Further information	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
Toluene	108-88-3	TWA	50 ppm 192 mg/m3	2006/15/EC
Further information	Indicative, Identifies the possibility of significant uptake through the skin			
		STEL	100 ppm 384 mg/m3	2006/15/EC
Further information	Indicative, Identifies the possibility of significant uptake through the skin			
		TWA	50 ppm 191 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	100 ppm 384 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
phenol	108-95-2	TWA	2 ppm 8 mg/m3	2009/161/EU
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	4 ppm 16 mg/m3	2009/161/EU
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	2 ppm 7,8 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	4 ppm 16 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
Methanol	67-56-1	TWA	200 ppm 260 mg/m3	2006/15/EC
Further information	Indicative, Identifies the possibility of significant uptake through the skin			
		TWA	200 ppm 266 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	250 ppm 333 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
Formaldehyde	50-00-0	TWA	2 ppm 2,5 mg/m3	GB EH40
		STEL	2 ppm 2,5 mg/m3	GB EH40

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Methanol	Workers	Dermal	Systemic effects,	40 mg/kg

			Long-term exposure	bw/day
	Workers	Inhalation	Systemic effects, Long-term exposure	260 mg/m3
	Workers	Inhalation	Local effects, Long-term exposure	260 mg/m3
	Workers	Dermal	Systemic effects, Short-term exposure	40 mg/kg bw/day
	Workers	Inhalation	Systemic effects, Short-term exposure	260 mg/m3
	Workers	Inhalation	Local effects, Short-term exposure	260 mg/m3
	Consumers	Dermal	Systemic effects, Long-term exposure	8 mg/kg bw/day
	Consumers	Inhalation	Systemic effects, Long-term exposure	50 mg/m3
	Consumers	Oral	Systemic effects, Long-term exposure	8 mg/kg bw/day
	Consumers	Inhalation	Local effects, Long-term exposure	50 mg/m3
	Consumers	Inhalation	Systemic effects, Short-term exposure	50 mg/m3
	Consumers	Inhalation	Local effects, Short-term exposure	50 mg/m3
	Consumers	Dermal	Systemic effects, Short-term exposure	8 mg/kg bw/day
	Consumers	Oral	Systemic effects, Short-term exposure	8 mg/kg bw/day
phenol	Workers	Inhalation	Local effects, Short-term exposure	16 mg/m3
	Workers	Dermal	Systemic effects, Long-term exposure	1,23 mg/kg bw/day
	Workers	Inhalation	Systemic effects, Long-term exposure	8 mg/m3
	Consumers	Dermal	Systemic effects, Long-term exposure	0,4 mg/kg bw/day
	Consumers	Inhalation	Systemic effects, Long-term exposure	1,32 mg/m3
	Consumers	Oral	Systemic effects, Long-term exposure	0,4 mg/kg bw/day
Toluene	Indirect exposure to humans via the environment	Inhalation	Systemic effects, Short-term exposure	384 mg/m3
	Workers	Dermal	Systemic effects, Long-term exposure	384 mg/kg bw/day
	Workers	Inhalation	Local effects, Short-term exposure	384 mg/m3

	Workers	Inhalation	Systemic effects, Long-term exposure	192 mg/m3
	Workers	Inhalation	Local effects, Long-term exposure	192 mg/m3
	Consumers	Dermal	Systemic effects, Long-term exposure	226 mg/kg bw/day
	Consumers	Inhalation	Systemic effects, Short-term exposure	226 mg/m3
	Consumers	Oral	Systemic effects, Long-term exposure	8,13 mg/kg bw/day
	Consumers	Inhalation	Local effects, Short-term exposure	226 mg/m3
	Consumers	Inhalation	Systemic effects, Long-term exposure	56,5 mg/m3
	Consumers	Inhalation	Local effects, Long-term exposure	56,5 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Methanol	Fresh water	154 mg/l
Remarks:	Assessment Factors	
	Marine water	15,4 mg/l
	Assessment Factors	
	Freshwater - intermittent	1540 mg/l
	Assessment Factors	
	Sediment	570,4 mg/kg
	Equilibrium method	
	Secondary Poisoning	
	Sewage treatment plant	100 mg/l
	Assessment Factors	
	Soil	23,5 mg/kg
	Equilibrium method	
phenol	Fresh water	0,0077 mg/l
	Assessment Factors	
	Marine water	0,00077 mg/l
	Assessment Factors	
	Freshwater - intermittent	0,031 mg/l
	Assessment Factors	
	Sewage treatment plant	2,1 mg/l
	Assessment Factors	

	Fresh water sediment	0,0915 mg/kg
	Assessment Factors	
	Marine sediment	0,00915 mg/kg
	Assessment Factors	
	Soil	0,136 mg/kg
	Assessment Factors	
	Secondary Poisoning	
Toluene	Fresh water	0,68 mg/l
	Assessment Factors	
	Marine water	0,68 mg/l
	Assessment Factors	
	Freshwater - intermittent	0,68 mg/l
	Assessment Factors	
	Sewage treatment plant	13,61 mg/l
	Assessment Factors	
	Fresh water sediment	16,39 mg/kg
	Assessment Factors	
	Marine sediment	16,39 mg/kg
	Assessment Factors	
	Soil	2,89 mg/kg
	Assessment Factors	

8.2 Exposure controls

Engineering measures

Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety glasses

Hand protection
Material : butyl-rubber

Material : Ethyl Vinyl Alcohol Laminate (EVAL)
Break through time : > 8 h

Material : Nitrile rubber
Break through time : 10 - 480 min

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions

(mechanical strain, duration of contact).

Skin and body protection : Protective suit

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	brown
Odour	:	No data is available on the product itself.
Odour Threshold	:	No data is available on the product itself.
pH	:	No data is available on the product itself.
Freezing point	:	No data is available on the product itself.
Melting point		No data is available on the product itself.
Boiling point	:	> 125 °C
Flash point	:	> 1 °C Method: ISO 2719, closed cup
Evaporation rate	:	No data is available on the product itself.
Flammability (solid, gas)	:	No data is available on the product itself.
Burning rate	:	No data is available on the product itself.
Upper explosion limit	:	No data is available on the product itself.
Lower explosion limit	:	No data is available on the product itself.
Vapour pressure	:	No data is available on the product itself.
Relative vapour density	:	No data is available on the product itself.
Relative density	:	No data is available on the product itself.
Density	:	1 g/cm3 (25 °C)
Solubility(ies)		
Water solubility	:	insoluble (20 °C)

Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	No data is available on the product itself.
Auto-ignition temperature	:	No data is available on the product itself.
Decomposition temperature	:	> 200 °C
Viscosity		
Viscosity, dynamic	:	1 500 - 3 000 mPa,s (25 °C)
Explosive properties	:	No data is available on the product itself.
Oxidizing properties	:	No data is available on the product itself.

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : Stable under normal conditions.

Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Strong acids and strong bases
Strong oxidizing agents

10.6 Hazardous decomposition products

Burning produces noxious and toxic fumes.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity - Product : Acute toxicity estimate : > 2 000 mg/kg
Method: Calculation method

Acute inhalation toxicity - Product	:	Acute toxicity estimate : > 20 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity - Product	:	Acute toxicity estimate : > 2 000 mg/kg Method: Calculation method
Acute toxicity (other routes of administration)	:	No data available

Skin corrosion/irritation

Components:

Toluene**:**
Species: Rabbit
Method: Directive 67/548/EEC, Annex V, B.4.
Result: Skin irritation

phenol**:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: Causes burns.

Methanol**:**
Species: Rabbit
Assessment: No skin irritation
Method: Other guidelines
Result: No skin irritation

Formaldehyde**:**
Species: Rabbit
Assessment: Causes burns.
Method: OECD Test Guideline 404
Result: Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation

Components:

Toluene**:**
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

phenol**:**
Species: Rabbit
Method: OECD Test Guideline 405
Result: Risk of serious damage to eyes.

Methanol**:**
Species: Rabbit

Result: No eye irritation

Formaldehyde**:**
Species: Rat
Assessment: Risk of serious damage to eyes.
Method: No information available.
Result: Corrosive

Respiratory or skin sensitisation

Components:

Formaldehyde, oligomeric reaction products with phenol**:**
Exposure routes: Skin
Species: Humans
Assessment: May cause sensitisation by skin contact.
Result: May cause sensitisation by skin contact.

Toluene**:**
Exposure routes: Skin
Species: Guinea pig
Method: Directive 67/548/EEC, Annex V, B.6.
Result: Does not cause skin sensitisation.

phenol**:**
Exposure routes: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

Methanol**:**
Exposure routes: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

Formaldehyde**:**
Exposure routes: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: May cause sensitisation by skin contact.

Components:

Formaldehyde**:**
Assessment: May cause sensitisation by skin contact.

Germ cell mutagenicity

Components:

Toluene**:**
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Methanol**:**
Genotoxicity in vitro : Concentration: 15.8 - 63.3 mg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

: Concentration: 5 - 5000 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

: Concentration: ca 40 mg/ml
Metabolic activation: negative
Result: negative

Formaldehyde**:**
Genotoxicity in vitro : Result: positive

: Concentration: 60 ug/plate
Metabolic activation: negative
Method: OECD Test Guideline 471
Result: positive

Components:

Toluene**:**
Genotoxicity in vivo : Application Route: Intraperitoneal injection
Method: OPPTS 870.5385
Result: negative

Methanol**:**
Genotoxicity in vivo : Application Route: Intraperitoneal injection
Dose: 1920 - 4480 mg/kg
Method: OECD Test Guideline 474
Result: negative

Formaldehyde**:**
Genotoxicity in vivo : Cell type: Germ + Somatic
Result: Positive results were obtained in some in vivo tests.

Components:

phenol**:**
Germ cell mutagenicity- : In vitro tests showed mutagenic effects

Assessment

Formaldehyde**:**
Germ cell mutagenicity-Assessment : Positive result(s) from in vivo non-mammalian somatic cell mutagenicity tests, supported by positive results from in vitro mutagenicity assays.

Germ cell mutagenicity-Assessment : No data available

Carcinogenicity

Components:

Toluene**:**
Species: Rat, (male and female)
Application Route: Inhalation
Exposure time: 103 weeks
Dose: 4522 mg/m³
Frequency of Treatment: 6.5 hour
Method: OECD Test Guideline 453
Result: negative
Target Organs: Respiratory Tract, Kidney

phenol**:**
Species: Mouse, (male and female)
Application Route: Oral
Exposure time: 103 weeks
Dose: 5000 ppm
Method: OECD Test Guideline 451
Result: negative

Methanol**:**
Species: Rat, (male and female)
Application Route: Inhalation
Exposure time: 24 month(s)
Dose: >= 1300 mg/m³
Frequency of Treatment: 20 hour
Method: OECD Test Guideline 453
Result: negative

Species: Mouse, (male and female)
Application Route: Inhalation
Exposure time: 18 month(s)
Dose: 13 - 1300 mg/m³
Frequency of Treatment: 19 hour
Method: OECD Test Guideline 453
Result: negative

Formaldehyde**:**
Species: Rat, (male)
Application Route: Inhalation
Exposure time: 24 month(s)

Dose: 6 ppm
Frequency of Treatment: 6 hour
Result: positive

Components:

Formaldehyde**:**
Carcinogenicity - Assessment : Presumed to have carcinogenic potential for humans

Reproductive toxicity

Components:

Toluene**:**
Effects on fertility : Species: Rat, male and female
Application Route: Inhalation
General Toxicity - Parent: No observed adverse effect level: 1,875 mg/l
General Toxicity F1: No observed adverse effect level: 1,875 mg/l
Symptoms: Reduced foetal weight
Method: OECD Test Guideline 416

phenol**:**

Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 416
Remarks: No significant adverse effects were reported

Species: Mouse, female
Application Route: Oral

Methanol**:**

Species: Rat, male and female
Application Route: Inhalation
Method: OECD Test Guideline 416

Species: Monkey, female
Application Route: Inhalation

Species: Mouse, male
Application Route: Oral

Components:

Toluene**:**
Effects on foetal development : Species: Rat, female
Application Route: Inhalation
General Toxicity Maternal: No observed adverse effect level: 2 812 mg/m³
Method: Other guidelines
Result: No teratogenic effects

phenol**:**

Species: Rat, female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 60 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

Methanol**:**

Species: Monkey
Application Route: Inhalation
General Toxicity Maternal: No observed adverse effect level: 2 390 mg/m³
Result: No teratogenic effects

Components:

Toluene**:**
Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

Methanol**:**
Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

STOT - single exposure

Components:

Toluene**:**
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

phenol**:**
Exposure routes: Inhalation
Target Organs: Narcotic effects
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

Methanol**:**
Target Organs: Bladder, Blood, Central nervous system, Eyes, Kidney, Liver, Nervous system, spleen
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

STOT - repeated exposure

Components:

Toluene**:**
Target Organs: Liver, Lungs, Kidney
Assessment: May cause damage to organs through prolonged or repeated exposure.

phenol**:**

Exposure routes: Skin contact
Target Organs: Central nervous system
Assessment: May cause damage to organs through prolonged or repeated exposure.

Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Toluene**:**
Species: Rat, male and female
LOEC: 625 mg/kg, 600
Application Route: Ingestion
Test atmosphere: vapour
Exposure time: 13 WeeksNumber of exposures: 6 d
Method: OECD Test Guideline 453

phenol**:**
Species: Monkey, male
: 1,8 mg/kg, > 19,6
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 672 hNumber of exposures: 8 h
Method: Subacute toxicity

Species: Rabbit
LOEL: 260 mg/kg
Application Route: Skin contact
Exposure time: 432 hMethod: Subacute toxicity

Species: Rat, male and female
NOAEL: 450 mg/kg
Application Route: Ingestion
Exposure time: 103 WeeksNumber of exposures: 7 d
Method: Chronic toxicity

Methanol**:**
Species: Monkey
: 13
Test atmosphere: vapour
Exposure time: 5 040 hNumber of exposures: 21 h

Species: Monkey, male and female
: 6660
Application Route: Ingestion
Test atmosphere: vapour
Exposure time: 72 hNumber of exposures: 6 h
Method: OECD Test Guideline 412

Species: Monkey
: 1300
Test atmosphere: vapour

Exposure time: 1 440 hNumber of exposures: 21 h

Species: Monkey
LOEC: 3990
Test atmosphere: vapour
Exposure time: 480 hNumber of exposures: 21 h

Formaldehyde**:**
Species: Mouse, male and female
LOAEL: 6 ppm
Test atmosphere: gas
Exposure time: 2 yrNumber of exposures: 6 h
Method: OECD Test Guideline 453

Species: Rat, male and female
NOAEL: 15 - 21 mg/kg
Application Route: Ingestion
Exposure time: 105 WeeksNumber of exposures: 7 d
Method: Chronic toxicity

Species: Rat, male and female
NOAEL: 82
Application Route: Ingestion
Exposure time: 105 WeeksNumber of exposures: 7 d
Method: Chronic toxicity

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

Components:

Toluene**:**
May be fatal if swallowed and enters airways.

Methanol**:**
May be harmful if swallowed and enters airways.

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution
No data available

Neurological effects
No data available

Further information

Components:
Methanol**:**
Remarks: Solvents may degrease the skin.

SECTION 12: Ecological information

12.1 Toxicity

Components:
Toluene**:**

Toxicity to fish	:	LC50 : 5,5 mg/l Exposure time: 96 h Test Type: flow-through test Test substance: Fresh water
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Ceriodaphnia dubia (Water flea)): 3,78 mg/l Exposure time: 48 h Test Type: Other guidelines Test substance: Fresh water Method: EPA OTS 797.1300
Toxicity to fish (Chronic toxicity)	:	NOEC: 1,39 mg/l Exposure time: 40 d Test Type: flow-through test Test substance: Fresh water
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,74 mg/l Exposure time: 7 d Species: Ceriodaphnia dubia (Water flea) Test Type: Other guidelines Test substance: Fresh water Method: EPA OTS 797.1330

phenol**:**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 8,9 mg/l Exposure time: 96 h Test Type: flow-through test Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3,1 mg/l Exposure time: 48 h Test Type: static test Test substance: Fresh water Method: EPA OTS 797.1300
Toxicity to fish (Chronic toxicity)	:	NOEC: 0,077 mg/l Exposure time: 60 d Species: Other Test Type: semi-static test Test substance: Fresh water
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EC10: 4,6 mg/l Exposure time: 16 d Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water
Ecotoxicology Assessment Acute aquatic toxicity	:	Harmful to aquatic life.
Chronic aquatic toxicity	:	Harmful to aquatic life with long lasting effects.

Methanol**:**

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 15 400 mg/l Exposure time: 96 h Test Type: flow-through test Test substance: Fresh water
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10 000 mg/l Exposure time: 48 h Test Type: static test Test substance: Fresh water Method: DIN 38412
Toxicity to algae	:	ErC50 (Selenastrum capricornutum (green algae)): ca. 22 000 mg/l Exposure time: 96 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 201
Toxicity to microorganisms	:	IC50 (activated sludge): > 1 000 mg/l Exposure time: 3 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 209

Formaldehyde**:**

Toxicity to fish	:	LC50 (Other): 6,7 mg/l Exposure time: 96 h Test Type: static test

Test substance: Fresh water
Method: No information available.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 5,8 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Toxicity to algae : EgC50 (Other): 3,48 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

EC50 (Other): 3,48 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (Bacteria): 34,1 mg/l
Exposure time: 120 h
Test Type: static test
Test substance: Fresh water
Method: No information available.

EC50 (activated sludge): 20,4 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

12.2 Persistence and degradability

Components:

Toluene**:**

Biodegradability : Inoculum: Sewage (STP effluent)
Concentration: 10 mg/l
Result: Readily biodegradable.
Biodegradation: 81 %
Exposure time: 5 d

phenol**:**

Biodegradability : Inoculum: activated sludge
Concentration: 30 mg/l
Result: Readily biodegradable.
Biodegradation: 62 %
Exposure time: 4,16667 d
Method: OECD Test Guideline 301C

Methanol**:**

Biodegradability : Inoculum: Marine water

Result: Readily biodegradable.
Biodegradation: 69 - 97 %
Exposure time: 5 - 20 d

Photodegradation : Test Type: Air
Rate constant: 0.0093
Degradation (direct photolysis): 50 %

Formaldehyde**:**

Biodegradability : Inoculum: activated sludge
Concentration: 1 360 mg/l
Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 4 d
Method: No information available.

Inoculum: activated sludge
Concentration: 100 mg/l
Result: Readily biodegradable.
Biodegradation: 91 %
Exposure time: 14 d
Method: OECD Test Guideline 301C

Inoculum: activated sludge
Result: Readily biodegradable.
Biodegradation: 99,5 %
Exposure time: 160 d
Method: OECD Test Guideline 303 A

Biochemical Oxygen Demand (BOD) : 0,33 - 1,07 mg/l
Incubation time: 5 d

Chemical Oxygen Demand (COD) : 1.07 mgO2/g

12.3 Bioaccumulative potential

Components:

Toluene**:**
Partition coefficient: n-octanol/water : log Pow: 2,73 (20 °C)
pH: 7

phenol**:**
Partition coefficient: n-octanol/water : log Pow: 1,47 (30 °C)
pH: 3,8

Methanol**:**
Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Exposure time: 3 d
Bioconcentration factor (BCF): < 10
Test substance: Fresh water

Partition coefficient: n- : log Pow: -0,77

octanol/water

Formaldehyde**:**
Partition coefficient: n-octanol/water : log Pow: 0,35 (25 °C)
Method: No information available.

12.4 Mobility in soil

Components:

Toluene**:**
Distribution among environmental compartments : Koc: 34 - 120
Method: OECD Test Guideline 312

Formaldehyde**:**
Distribution among environmental compartments : Koc: 15,9
Method: No information available.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

12.6 Other adverse effects

Components:

Methanol**:**

Additional ecological information : No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Can be landfilled or incinerated, when in compliance with local regulations.
Where possible recycling is preferred to disposal or incineration.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14: Transport information

IATA
14.1 UN number : UN 1866

14.2 UN proper shipping name	:	Resin solution
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	II
Labels	:	Flammable Liquids
Packing instruction (cargo aircraft)	:	364
Packing instruction (passenger aircraft)	:	353

IMDG

14.1 UN number	:	UN 1866
14.2 UN proper shipping name	:	RESIN SOLUTION
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	II
Labels	:	3
EmS Code	:	F-E, S-E
14.5 Environmental hazards		
Marine pollutant	:	no

ADR

14.1 UN number	:	UN 1866
14.2 UN proper shipping name	:	RESIN SOLUTION
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	II
Labels	:	3
14.5 Environmental hazards		
Environmentally hazardous	:	no

RID

14.1 UN number	:	UN 1866
14.2 UN proper shipping name	:	RESIN SOLUTION
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	II
Labels	:	3
14.5 Environmental hazards		
Environmentally hazardous	:	no

Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

The components of this product are reported in the following inventories:

TSCA	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
AICS	:	On the inventory, or in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), ENCS (Japan), KECI (Korea), NZIOC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

15.2 Chemical safety assessment

SECTION 16: Other information

Full text of H-Statements

H225	:	Highly flammable liquid and vapour.
H301	:	Toxic if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H311	:	Toxic in contact with skin.

H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H331	:	Toxic if inhaled.
H336	:	May cause drowsiness or dizziness.
H341	:	Suspected of causing genetic defects.
H350	:	May cause cancer.
H361d	:	Suspected of damaging the unborn child.
H370	:	Causes damage to organs.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H411	:	Toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
Asp. Tox.	:	Aspiration hazard
Carc.	:	Carcinogenicity
Flam. Liq.	:	Flammable liquids
Muta.	:	Germ cell mutagenicity
Repr.	:	Reproductive toxicity
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure

Further information

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 2	H225	On basis of test data.
Skin Corr. 1B	H314	Calculation method
Skin Sens. 1	H317	Calculation method
Muta. 2	H341	Calculation method
Carc. 1B	H350	Calculation method
Repr. 2	H361d	Calculation method
STOT RE 2	H373	Calculation method
Aquatic Chronic 3	H412	Calculation method

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