

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

1.1. Product identifier

Product form : Mixtures
Product name : 1082
Type of product : Hardener (Crosslinker)

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

1.2.1. Relevant identified uses

Intended for general public
Main use category : Industrial use
Industrial/Professional use spec : Intended for general public
Industrial
Use of the substance/mixture : Laminating hardener, casting, injection, winding, infusion, gluing, foaming, coatings and sealants.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

RESOLTECH
249 AVENUE GASTON IMBERT Zone Industrielle de Rousset
13790 ROUSSET - France
T +33 (0) 4 42 95 01 95 (8h-12h & 14h-18h) - F +33 (0) 4 42 95 01 98
fds@resoltech.com - www.resoltech.com

1.4. Emergency telephone number

Emergency number : ORFILA (FRANCE) : +33 (0)1 45 42 59 59 (24h/24, 7j/7)

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service Edinburgh Royal Infirmary of Edinburgh	Little France Crescent EH16 4SA Edinburgh	0344 892 0111	
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 4 H302
Acute toxicity (dermal), Category 3 H311
Acute toxicity (inhalation:vapour) Category 2 H330
Skin corrosion/irritation, Category 1A H314
Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) : Danger
Hazardous ingredients : 2,2'-dimethyl-4,4'-methylenbis(cyclohexylamine)
Hazard statements (CLP) : H302 - Harmful if swallowed
H311 - Toxic in contact with skin

1082

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 453/2010

Precautionary statements (CLP)	H314 - Causes severe skin burns and eye damage H330 - Fatal if inhaled H411 - Toxic to aquatic life with long lasting effects
	: P102 - Keep out of reach of children P270 - Do not eat, drink or smoke when using this product P271 - Use only outdoors or in a well-ventilated area P273 - Avoid release to the environment P281 - Use personal protective equipment as required P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting P304+P340 - IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	(CAS-No.) 6864-37-5 (EC-No.) 229-962-1 (EC Index-No.) 612-110-00-1 (REACH-no) 01-2119497829-12	60 - 100	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 2 (Inhalation), H330 Skin Corr. 1A, H314 Aquatic Chronic 2, H411

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Assure fresh air breathing. Respiratory arrest: artificial respiration or oxygen. If unconscious place in recovery position and seek medical advice.
First-aid measures after skin contact	: Wash contaminated clothing before reuse. Take off contaminated clothes, wash skin with plenty of water or have a shower (during minimum 15 minutes) and if necessary take medical advice. If on skin and if skin irritation or rash occurs, seek medical advice and attention.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse eye with clean water for 20-30 minutes, retracting eyelids often. Consult an eye specialist if necessary.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting because of corrosive effects. Immediately call a POISON CENTER or doctor/physician.

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

Symptoms/effects after inhalation	: Cough. May cause respiratory irritation. Severe inhalation hazard.
Symptoms/effects after skin contact	: May cause moderate irritation.
Symptoms/effects after eye contact	: May cause moderate irritation, including burning sensation, tearing, redness or swelling. Risk of damage to eyes.
Symptoms/effects after ingestion	: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

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

For the Anti-poison Center indicate all the components including the non dangerous ones to obtain (when possible) a total of 100 %.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Foam. Dry powder. Carbon dioxide.
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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 453/2010

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Do not breathe fumes from fires or vapours from decomposition.
Hazardous decomposition products in case of fire : Carbon dioxide. Carbon monoxide. Nitrogen oxides.

5.3. Advice for firefighters

Precautionary measures fire : Evacuate personnel to a safe area. Do not enter fire area without proper protective equipment, including respiratory protection.
Firefighting instructions : Exercise caution when fighting any chemical fire. Unauthorized persons are not admitted. Eliminate all ignition sources if safe to do so. Prevent fire fighting water from entering the environment.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus. Special protective equipment for fire-fighters.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : No open flames. No smoking. Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it. Do not allow to enter drains or water courses.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapour. Avoid all unnecessary exposure. Do not handle until all safety precautions have been read and understood. Keep containers closed.
Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Store, if possible, in a cool, well ventilated place away from incompatible materials.
Incompatible products : Strong acids. Oxidizing agent. Halogenated hydrocarbons.
Incompatible materials : Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1082	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	18 mg/m ³
Long-term - systemic effects, inhalation	0.6 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	0.03 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.15 mg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	0.125 mg/l
PNEC aqua (marine water)	0.0125 mg/l

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 453/2010

1082	
PNEC aqua (intermittent, freshwater)	0.046 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	36.4 mg/kg dwt
PNEC sediment (marine water)	3.64 mg/kg dwt
PNEC (Soil)	
PNEC soil	7.18 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	1.667 kg/kg food
PNEC (STP)	
PNEC sewage treatment plant	1.6 mg/l

8.2. Exposure controls

Personal protective equipment:

Self-contained breathing apparatus. Gloves. Gas mask. Protective clothing. Protective goggles. High gas/vapour concentration: gas mask with filter type K.

Hand protection:

Nitrile-rubber protective gloves. Chemical resistant gloves (according to European standard NF EN 374 or equivalent)

Eye protection:

Chemical goggles or face shield

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear respiratory protection. High gas/vapour concentration: gas mask with filter type K



Consumer exposure controls:

Avoid contact during pregnancy/while nursing.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Yellow.
Odour	: Amine-like.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 0.94
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 453/2010

Viscosity, dynamic	: 150
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with water.

10.2. Chemical stability

Stable in use and storage conditions as recommended in item 7.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Strong acids. Oxidizing agent. metals. halogenated hydrocarbons.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Toxic in contact with skin. Inhalation:vapour: Fatal if inhaled.

1082	
LD50 oral rat	320 - 460 mg/kg
LD50 dermal rabbit	300 (200 - 400) mg/kg
LC50 inhalation rat (Dust/Mist - mg/l/4h)	0.42 mg/l/4h

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) (6864-37-5)	
LD50 oral rat	320 - 460 mg/kg
LD50 dermal rabbit	300 (200 - 400) mg/kg
LC50 inhalation rat (Dust/Mist - mg/l/4h)	0.42 mg/l/4h

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Serious eye damage, category 1, implicit
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

1082	
LC50 fish 1	31.6 mg/l
EC50 Daphnia 1	4.6 mg/l
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) (6864-37-5)	
LC50 fish 1	31.6 mg/l
EC50 Daphnia 1	4.6 mg/l
EC50 72h algae (1)	2.1 mg/l

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

No additional information available

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR)	: 2927
UN-No. (IMDG)	: 2927
UN-No. (IATA)	: 2927
UN-No. (ADN)	: 2927
UN-No. (RID)	: 2927

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.
Proper Shipping Name (IMDG)	: TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.
Proper Shipping Name (IATA)	: Toxic liquid, corrosive, organic, n.o.s.
Proper Shipping Name (ADN)	: TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.
Proper Shipping Name (RID)	: TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.
Transport document description (ADR)	: UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S., 6.1 (8), II, (D/E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG)	: UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S., 6.1 (8), II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	: UN 2927 Toxic liquid, corrosive, organic, n.o.s., 6.1 (8), II, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	: UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S., 6.1 (8), II, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	: UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S., 6.1 (8), II, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)**ADR**

Transport hazard class(es) (ADR)	: 6.1 (8)
Danger labels (ADR)	: 6.1, 8

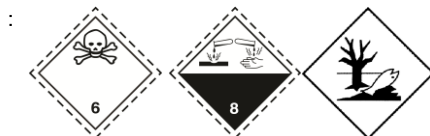
**IMDG**

Transport hazard class(es) (IMDG)	: 6.1 (8)
Danger labels (IMDG)	: 6.1, 8

**IATA**

Transport hazard class(es) (IATA) : 6.1 (8)

Hazard labels (IATA) : 6.1, 8



ADN

Transport hazard class(es) (ADN) : 6.1 (8)

Danger labels (ADN) : 6.1, 8



RID

Transport hazard class(es) (RID) : 6.1 (8)

Danger labels (RID) : 6.1, 8



14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : II

Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : Yes

Marine pollutant : Yes

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : TC1

Special provisions (ADR) : 274

Limited quantities (ADR) : 100ml

Excepted quantities (ADR) : E4

Packing instructions (ADR) : P001, IBC02

Mixed packing provisions (ADR) : MP15

Portable tank and bulk container instructions (ADR) : T11

Portable tank and bulk container special provisions (ADR) : TP2, TP27

Tank code (ADR) : L4BH

Tank special provisions (ADR) : TU15, TE19

Vehicle for tank carriage : AT

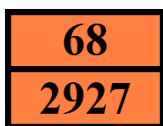
Transport category (ADR) : 2

Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28

Special provisions for carriage - Operation (ADR) : S9, S19

Hazard identification number (Kemler No.) : 68

Orange plates :



Tunnel restriction code (ADR) : D/E

EAC code : 2XE

APP code : B

- Transport by sea

Special provisions (IMDG) : 274

Limited quantities (IMDG) : 100 ml

Excepted quantities (IMDG) : E4

Packing instructions (IMDG) : P001

IBC packing instructions (IMDG) : IBC02

Tank instructions (IMDG) : T11

Tank special provisions (IMDG) : TP2, TP27

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-B

Stowage category (IMDG) : B

Properties and observations (IMDG) : Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.

- Air transport

PCA Excepted quantities (IATA) : E4

PCA Limited quantities (IATA) : Y640

PCA limited quantity max net quantity (IATA) : 0.5L

PCA packing instructions (IATA) : 653

PCA max net quantity (IATA) : 1L

CAO packing instructions (IATA) : 660

CAO max net quantity (IATA) : 30L

Special provisions (IATA) : A4, A137

ERG code (IATA) : 6C

- Inland waterway transport

Classification code (ADN) : TC1

Special provisions (ADN) : 274, 82

Limited quantities (ADN) : 100 ml

Excepted quantities (ADN) : E4

Carriage permitted (ADN) : T

Equipment required (ADN) : PP, EP, TOX, A

Ventilation (ADN) : VE02

Number of blue cones/lights (ADN) : 2

- Rail transport

Classification code (RID) : TC1

Special provisions (RID) : 274

Limited quantities (RID) : 100ml

Excepted quantities (RID) : E4

Packing instructions (RID) : P001, IBC02

Mixed packing provisions (RID) : MP15

Portable tank and bulk container instructions (RID) : T11

Portable tank and bulk container special provisions (RID) : TP2, TP27

Tank codes for RID tanks (RID) : L4BH

Special provisions for RID tanks (RID) : TU15

Transport category (RID) : 2

Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28, CW31

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 453/2010

Colis express (express parcels) (RID) : CE5

Hazard identification number (RID) : 68

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes:

Revision - See : *.

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : Information in this safety data sheet is based on actual knowledge in our possession and our experience. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. It is the user's responsibility to take mentioned precaution measures and ensure that this information is complete and sufficient for the use of this product.

Full text of H- and EUH-statements:

Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H330	Fatal if inhaled
H411	Toxic to aquatic life with long lasting effects

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product