

AFINITICA® H2R

SDB n°: 242953

V1.0 (MARCH 2017)

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SECTION 1: Product and company identification

1.1. Product identifier

AFINITICA® H2R

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

Intended use: Adhesive

1.3. Details of the supplier of the safety data sheet

Afinitica Technologies S.L.
Edificio Eureka, Parc de Recerca UAB
08193 Bellaterra (Barcelona)

España
Telephone number: +34 931 431 952
info@afinitica.com

1.4. Emergency telephone number

Afinitica Technologies S.L. + 34 931 431 952

Afinitica Technologies (24 h) + 34 694 412 618

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. GHS classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity after single exposure (Category 3)

For the full text of the H-statements mentioned in this Section, see Section 16.

2.2. GHS label elements, including precautionary statements

Pictogram



Signal Word

Warning

Hazard statements

H227	Combustible liquid
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

Precautionary statements

P210	Keep away from heat – No smoking.
P261	Avoid breathing vapours.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves / eye protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
P312	Call a POISON CENTER or doctor / physician if you feel unwell.
P321	Specific treatment (see supplemental first aid instructions on this label)
P332 + P313	If skin irritation occurs: Get medical attention
P337 + P313	If eye irritation persists: Get medical attention.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of container to an approved waste disposal plant.

For full text of these Hazard and Precautionary statements, see Section 16.

2.3. Hazards not otherwise classified (HNOC) or not covered by GHS

Lachrymator., Stench.

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

General chemical description: Cyanoacrylate adhesive

3.2.1. Declaration of the ingredients in accordance with 29 CFR 1910 (OSHA HCS):

Hazardous component	CAS-No.	EC-No.	Content	Classification
Ethyl 2-cyanoacrylate	7085-85-0	230-391-5	>70 – ≤ 98%	Flam. Liq. 4; H227 Eye irrit. 2A; H319 Skin irrit. 2; H315 STOT SE 3; H335
Silicones and siloxanes, dimethyl-, reaction products with silica	67762-90-7	-	1 – 10 %	-
Vinyl derivatives copolymer	-	-	1 – 10 %	-
Hydroquinone	123-31-9	204-617-8	0.01 – < 0.1%	Acute Tox. 4; H302 Skin Sens. 1; H317 Eye Dam. 1; H318 Muta. 2; H341 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M factor: 10

For full text of these Hazard and Precautionary statements, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice:

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled:

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact:

Do not pull bonded skin apart. It may be gently peeled apart using a blunt object such as a spoon, preferably after soaking in warm soapy water. Cyanoacrylates give off heat on solidification. In rare cases a large drop will generate enough heat to cause a burn. Burns should be treated normally after the adhesive has been removed

from the skin. If lips are accidentally stuck together apply warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips apart with direct opposing action.

In case of eye contact:

If the eye is bonded closed, release eyelashes with warm water by covering with wet pad. Cyanoacrylate will bond to eye protein and will cause periods of weeping which will help to debond the adhesive. Keep eye covered until debonding is complete, usually within 1-3 days. Do not force eye open. Medical advice should be sought in case solid particles of cyanoacrylate trapped behind the eyelid cause any abrasive damage.

If swallowed:

Ensure that breathing passages are not obstructed. The product will polymerise immediately in the mouth making it almost impossible to swallow. Saliva will slowly separate the solidified product from the mouth (several hours).

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

Eye	irritation, conjunctivitis
Skin	redness, inflammation
Respiratory system	irritation, coughing, breath shortness, chest tightness

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

See section 4.1

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NOx)

5.3. Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary

5.4. Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection, see Section 8.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains

6.3. Methods and materials for containment and cleaning up

Do not use cloths for mopping up. Flood with water to complete polymerization and scrape off the floor. Cured material can be disposed of as non-hazardous waste.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Ventilation (low level) is recommended when using large volumes.

Use of dispensing equipment is recommended to minimise the risk of skin or eye contact

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Good industrial hygiene practices should be observed.

7.2. Conditions for safe storage, including any incompatibilities

For optimum shelf life store in original containers under refrigerated conditions at 2 - 8°C (35.6 - 46.4 °F)

7.3. Specific end use(s)

Adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits (OEL):

Substance	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Ethyl 2- cyanoacrylate 7085-85-0	0.2 ppm TWA	-	-	-
Silica dust	10 mg/m ³ TWA (inhalable dust)	15 mg/m ³ TWA (total dust)	-	-
	3 mg/m ³ TWA (respirable fraction)	5 mg/m ³ TWA (respirable fraction)		
Hydroquinone 123-31-9	1 mg/m ³ TWA	2 mg/m ³ TWA		

Biological occupational exposure limits:

Substance	Value on basis: ACGIH BEI	Parameters	Biological specimen	Remarks
Hydroquinone 123-31-9	1.5 %	Methemoglobin	In blood	During or end of shift

8.2. Exposure controls

Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment:

Eye/face protection:

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166 (EU).

Skin protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection:

Use impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure:

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Liquid
Colourless

Odour

Irritating

pH

No data available/Not applicable

Initial boiling point

No data available/Not applicable

Flash point

80 °C (176 °F)

Decomposition temperature

No data available/Not applicable

Vapour pressure

No data available/Not applicable

Density

No data available/Not applicable

Bulk density

No data available/Not applicable

Viscosity

No data available/Not applicable

Viscosity (kinematic)

No data available/Not applicable

Explosive properties

No data available/Not applicable

Qualitative solubility (solvent: water)

Polymerises in presence of water

Solidification temperature

No data available/Not applicable

Melting point

No data available/Not applicable

Flammability

No data available/Not applicable

Auto-Ignition temperature

No data available/Not applicable

Explosive limits

No data available/Not applicable

Partition coefficient n-octanol/water

No data available/Not applicable

Evaporation rate

No data available/Not applicable

Vapour density

No data available/Not applicable

Oxidizing properties

No data available/Not applicable

9.2. Other safety information

No data available/Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available/Not applicable.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No data available/Not applicable.

10.4. Conditions to avoid

Heat, flames and sparks.

10.5. Incompatible materials

Reducing agents, water, amines, alcohols, alkali metals, oxidizing agents.

10.6. Hazardous decomposition products

Other decomposition products – no data available.
In the event of fire: see Section 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Aspiration hazard:

Irritating to respiratory system

Acute oral toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Ethyl 2-cyanoacrylate 7085-85-0	LD50	> 5.000 mg/kg	oral	-	rat	OECD Guideline 401 (Acute Oral Toxicity)□

Acute dermal toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Ethyl 2-cyanoacrylate 7085-85-0	LD50	> 2.000 mg/kg	dermal	-	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Ethyl 2-cyanoacrylate 7085-85-0	Mild skin irritation	24 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Ethyl 2-cyanoacrylate 7085-85-0	irritating	72 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Ethyl 2-cyanoacrylate 7085-85-0	Non sensitizing	-	Guinea pig	-
Hydroquinone 123-31-9	Sensitising	Guinea pig maximisation test	Guinea pig	-

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Ethyl 2-cyanoacrylate 7085-85-0	negative	mammalian cell gene mutation assay	with and without	-	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Ethyl 2-cyanoacrylate 7085-85-0	negative	bacterial reverse mutation assay (e.g Ames test)	-	-	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Ethyl 2-cyanoacrylate 7085-85-0	negative	in vitro mammalian chromosome aberration test	with and without	-	OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)□
Hydroquinone 123-31-9	negative	Bacterial reverse mutation assay (e.g. Ames test)	with and without	-	EU Method B.13/14 (Mutagenicity)

Repeated dose toxicity:

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Hydroquinone 123-31-9	NOAEL ≥ 250 mg/kg	oral: gavage	14 days, 5 days/week. 12 doses	rat	OECD Guideline 407 (repeated Dose 28-Day Oral Toxicity in Rodents)
Hydroquinone 123-31-9	LOAEL ≤ 500 mg/kg	oral: gavage	14 days, 5 days/week. 12 doses	rat	OECD Guideline 407 (repeated Dose 28-Day Oral Toxicity in Rodents)

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

SECTION 12: Ecological information

12.1. Toxicity

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Hydroquinone 123-31-9	LC50	0.638 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Hydroquinone 123-31-9	EC50	0.134 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Hydroquinone 123-31-9	EC50	0.335 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hydroquinone 123-31-9	NOEC	0.0057 mg/l	chronic Daphnia	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

12.2. Persistence and degradability

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Ethyl 2-cyanoacrylate 7085-85-0	-	aerobic	57 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Hydroquinone 123-31-9	readily biodegradable	Aerobic	75 – 81 %	EU Method C.4-E (Determination of the "Ready" Biodegradability: Closed Bottle Test)

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Disposal of uncleaned packages:

Dispose of as unused product.

SECTION 14: Transport information

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name	Combustible liquid, n.o.s. (Cyanoacrylate ester)
Hazard class or division	Combustible liquid
Identification number	NA 1993
Packing group	III

International Air Transportation (ICAO/IATA)

Proper shipping name	Aviation regulated liquid, n.o.s. (Cyanoacrylate ester)
Hazard class or division	9
Identification number	UN 3334
Packing group	III
Exceptions	Primary packs containing less than 500 ml are unregulated by this mode of transport and may be shipped unrestricted.

Water transportation (IMO/IMDG)

Proper shipping name	Not regulated.
Hazard class or division	None.
Identification number	None.
Packing group	None.

SECTION 15: Regulatory information

United States Regulatory Information

TSCA 8 (b) Inventory Status	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification	None above reporting De Minimis.
SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards	Fire Hazard, Acute Health Hazard, Chronic Health Hazard.
California Proposition 65	This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

Flam. Liq.	Flammable liquids.
Eye irrit.	Eye irritation.
Skin irrit.	Skin irritation.
STOT SE	Specific target organ toxicity – single exposure.
Acute Tox.	Acute toxicity
Skin Sens.	Skin sensitisation.
Eye Dam.	Serious eye damage.
Muta.	Germ cell mutagenicity.
Carc.	Carcinogenicity.
Aquatic Acute	Aquatic acute toxicity.
Aquatic Chronic	Chronic aquatic toxicity.
H227	Combustible liquid.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
P210	Keep away from heat – No smoking.
P261	Avoid breathing vapours.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves / eye protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
P312	Call a POISON CENTER or doctor / physician if you feel unwell.
P321	Specific treatment (see supplemental first aid instructions on this label)

P332 + P313	If skin irritation occurs: Get medical attention
P337 + P313	If eye irritation persists: Get medical attention.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of container to an approved waste disposal plant.

Further information

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

This safety data sheet was prepared in accordance with 29 CFR 1910 (OSHA HCS).