

Material Safety Data Sheet
Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 1 of 15
version no. 10
GB EN 00000000004
1

**01 Section 1: Identification of the substance/mixture
and of the company/undertaking**

Product identifier

H420 1L hardener
SC20-02EF RM01
50206910

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

Recommended use

Car refinishing products

Customer article no

Details of the supplier of the safety data sheet

R-M Automotive Refinish Ltd
Unit 101 10th Avenue
Deeside Ind. Park, Flintshire CH5 2UA
Great Britain

E-mail address

Product-Safety-Coatings@basf.com

Emergency phone

+44 12 44 281 315

02 Section 2: Hazards Identification

Classification of the substance or mixture

According to Directive 67/548/EEC or 1999/45/EC

- Flammable.
- Harmful by inhalation.
- Irritating to respiratory system.
- May cause sensitization by skin contact.

Label elements

According to Directive 67/548/EEC respectively 1999/45/EC (Annex
V, Section A and B)

Danger symbol:

Xn Harmful



Product contains:

HDI-Oligomer(Trimer)

Material Safety Data Sheet
Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 2 of 15
version no. 10
GB EN 00000000004
2

Risk Warnings

R10

Flammable.

R20

Harmful by inhalation.

R37

Irritating to respiratory system.

R43

May cause sensitization by skin contact.

Labelling for Industrial Users

S23

Do not breathe spray dust/solvent vapour.

S24

Avoid contact with skin.

S37

Wear suitable gloves.

S38

In case of insufficient ventilation, wear suitable respiratory equipment.

Contains isocyanates. See information supplied by the manufacturer - refer to the material safety data sheet.

Other hazards

The product may be a skin and respiratory sensitizer. It is also a skin irritant and repeated contact may increase this effect.

03 Section 3: Composition/Information on Ingredients

Substances

not applicable

Mixtures

Chemical nature

polyisocyanate, organic solvent

Hazardous ingredients

according to Regulation (EC) No. 1272/2008

CAS no.

EINECS no.

REACH no.

INDEX no.

% (weight)

Hazard Statement

n-butylacetate

123-86-4

204-658-1

607-025-00-1

Material Safety Data Sheet
Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 3 of 15
version no. 10
GB EN 00000000004
3

10,0 - < 12,5
H226 H336
- Flammable liquids Category 3
- Specific target organ toxicity following single exposure Vapours may cause drowsiness and dizziness. Category 3

hexamethylene-di-isocyanate

822-06-0 212-485-8 615-011-00-1
0,2 - < 0,3
H331 H315 H319 H335 H334 H317
- Acute toxicity Inhalation - vapour Category 3
- Skin corrosion/irritation Category 2
- Serious eye damage/eye irritation Category 2
- Specific target organ toxicity following single exposure irritating to respiratory system Category 3
- Respiratory sensitizer Category 1
- Skin sensitizer Category 1

HDI-Oligomer(Trimer)

28182-81-2 500-060-2
75,0 - 100,0
H332 H332 H335 H317
- Acute toxicity Inhalation - vapour Category 4
- Acute toxicity Inhalation - dust Category 4
- Specific target organ toxicity following single exposure irritating to respiratory system Category 3
- Skin sensitizer Category 1

Hazardous ingredients
according to Directive 1999/45/EC

CAS no. % (weight)	EINECS no. Symbol	REACH no. R phrases	INDEX no.
n-butylacetate			
123-86-4	204-658-1		607-025-00-1
10,0 - < 12,5	-	10-66-67	
hexamethylene-di-isocyanate			
822-06-0	212-485-8		615-011-00-1
0,2 - < 0,3	T	23-36/37/38-42/43	
HDI-Oligomer(Trimer)			
28182-81-2	500-060-2		
75,0 - 100,0	Xn	20-37-43	

The wording of the hazard symbols, R-phrases and H-statements is specified in chapter 16 if dangerous ingredients are mentioned.

Material Safety Data Sheet
Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 4 of 15
version no. 10
GB EN 00000000004
4

Description of first aid measures

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

If inhaled

Remove patient to fresh air and seek medical assistance. Keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position.

On skin contact

Remove contaminated clothing. Wash skin with soap and water, rinse abundantly. Do NOT use solvents or thinners.

On contact with eyes

Contact lenses should be removed. Hold eyelids open and flush with copious amounts of clean, fresh water or a special eyewash solution and seek medical advice.

On ingestion

If swallowed, rinse mouth with plenty of water (only if the person is conscious) and seek medical advice immediately. Keep the injured person at rest. Do not induce vomiting.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

No data available.

05 Section 5: Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media

Foam (alcohol resistant), carbon dioxide, powders, water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Unsuitable extinguishing media for safety reasons

Water jet

Special hazards arising from the substance or mixture

Material Safety Data Sheet

Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 5 of 15
version no. 10
GB EN 00000000004
5

Fire will produce dense black smoke. Inhalation of dangerous decomposition products may cause serious damage to health.

Advice for fire-fighters

Special protective equipment
Appropriate breathing apparatus may be required.

Additional information
Cool closed containers in the vicinity of the source of fire.

06 Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Exclude sources of ignition and ventilate the area. Avoid breathing vapours.

Environmental precautions

Do not allow to enter drains or watercourses. If the product enters drains or sewers, the local water company should be contacted immediately; in the case of contamination of streams, rivers or lakes, the Environment Agency.

Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth. Place in a suitable container. The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume):
ethanol or isopropyl alcohol (50 parts); water (45 parts);
concentrated (d:0,880) ammonia solution (5 parts)
A non-flammable alternative is:
sodium carbonate (5 parts); water (95 parts)
Add the same decontaminant to the remnants and let stand for several days until no further reaction in non-sealed container. Once this stage is reached, close container and dispose according to the waste regulations (see section 13).

Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

07 Section 7: Handling and Storage

Material Safety Data Sheet

Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 6 of 15
version no. 10
GB EN 00000000004
6

Precautions for safe handling

Instructions for Safe Handling

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.

Avoid skin and eye contact. Avoid inhalation of vapour and spray mist.

Avoid inhalation of dust from sanding.

Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws.

Isolate from sources of heat, sparks and open flame. Do not use any sparking tools.

Product may charge electrostatically: always use earthing leads when transferring from one container to another and earth containers. It is recommended that operators should wear antistatic clothing and footwear.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

Care should be taken when reopening partly used containers (pressurization!).

The Manual Handling Operations Regulations 90/269/EEC may apply to the handling of packages of this product. Refer to the guide weight indicated on the package when carrying out assessments. To assist employers, the following method of calculating the weight for any pack size is given. Take the pack size volume in litres and multiply this figure by the specific gravity value given in Section 9. This will give the net weight of the coating in kilograms. Allowance will then have to be made for the immediate packaging to give an approximate gross weight.

Information on Fire and Explosion Protection

Solvent vapours are heavier than air and spread along floors. Vapour forms explosive mixtures with air.

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

Material Safety Data Sheet
Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 7 of 15
version no. 10
GB EN 00000000004
7

Avoid heating to more than 50 °C. Provide adequate ventilation, if necessary by means of local exhaust ventilation at the work place. Exhaust ventilation required during spray application.

Conditions for safe storage, including any incompatibilities

Requirements for Storage Areas and Containers

Electrical equipment must be explosion-proof to the appropriate standard. Floors must be of conducting type and impermeable to the materials being stored.

Keep container tightly closed. Never use pressure to empty; container is not a pressure vessel. Close containers carefully once opened and store upright in order to prevent any leakage. No smoking. Prevent unauthorized access.

Information on Combined Storage

Keep away from strongly acid and strongly alkaline materials, from oxidizing agents, amines, alcohols and water.

Additional Information on Storage Conditions

Always keep in containers of same material as the original one. Observe label precautions. Store in a dry, well ventilated place away from sources of heat and direct sunlight. Keep away from sources of ignition.

Storage temperature : 5 - 35 °C

Precautions should be taken to minimise exposure to atmospheric humidity or water: carbon dioxide will be formed which in closed containers can result pressurisation.

Specific end use(s)

Detailed information can be gained from the relevant technical data sheets.

08 Section 8: Exposure Controls/Personal Protection

Persons with a history of allergies, asthma, chronic or recurrent respiratory disease must not be employed in any process in which preparations of this type are used. People who process this product should undergo lung function tests at regular intervals.

Control parameters

Occupational Exposure Limits

Material Safety Data Sheet

Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 8 of 15
version no. 10
GB EN 00000000004
8

CAS no.		limit values	
		ml/m3 (ppm)	mg/m3
n-butylacetate			
123-86-4	WEL-L	-	724
	WEL-S	-	966

Exposure controls

Engineering Measures

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Spraying of sensitizer containing products should only be carried out in suitable spray booths or enclosures equipped with effective exhaust ventilation to prevent spray mist escaping into the work areas outside the spray booth. Respiratory protective equipment should be worn by spray booth operatives (see "Personal protection" below).

Under cool dry conditions, it is possible for the isocyanate to remain unreacted in the paint film for up to 30 hours after application.

Personal protective equipment

All personal protective equipment, including respiratory protective equipment, used to control exposure to hazardous substances must be selected to meet the requirements of the Personal Protective Equipment at Work Regulations 1992 and the COSHH Regulations.

Respiratory Protection

When workers are facing concentrations above the occupational exposure limits they must use appropriate certified respirators.

Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet (sanding/flatting) should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.

Suitable respiratory protection: e.g. full face mask with AB2P3 class combination filter

Hand Protection

Wear protective gloves.

Any chemical protection glove certified according to EN 374 is suitable: e.g. butyl rubber gloves

Material thickness: = 0,5 mm

Material Safety Data Sheet

Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 9 of 15
version no. 10
GB EN 00000000004
9

Further information on penetration time is available from the manufacturer of the glove.

Data are based on information from the glove manufacturer, the raw material manufacturer or according to specifics of the product components.

The protection glove should be tested for its specific suitability (e.g. mechanical strength, product compatibility, anti-static properties).

Follow manufacturer's advice on use, storage, maintenance and replacement of gloves.

The gloves should be replaced immediately in case of damage or signs of wear. It is recommended to use preventative skin protection (skin cream).

Eye Protection

Required when there is a risk of eye contact.

Skin Protection

Personnel should wear antistatic, flame-retardant clothing made of natural fibres and/or heat-resistant synthetic fibres.

Wear protective clothing. Protective clothing required: disposable coveralls

Environmental exposure controls

see section 7 and 12

09 Section 9: Physical and Chemical Properties

Physical state	: liquid
Colour	: colourless
Odour	: specific
pH	: n.a.
Change in physical state	
Boiling temperature/range	: 124 - 128 °C
Melting point/range	: n.d.a.
Flash point	: +027 °C ISO 3679
Ignition temperature	: > 200 °C solvents

Material Safety Data Sheet

Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 10 of 15
version no. 10
GB EN 00000000004
10

Explosion limits, lower : > 35 g/m³
upper : n.d.a.
Vapour pressure : 10,0 hPa at 20°C
Density : 1,119 g/cm³ at 20°C
Solubility in water : immiscible
Viscosity : >030/6 s at 20°C ISO 2431

10 Section 10: Stability and Reactivity

Reactivity

Stable under recommended storage and handling conditions (see section 7).

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

Incompatible materials

Keep away from oxidising agents, strongly alkaline and strongly acidic materials, amines, alcohols and water. Uncontrolled exothermic reactions occur with amines and alcohols. The product reacts slowly with water resulting in evolution of carbon dioxide. In closed containers, pressure build up could result in distortion, blowing and in extreme cases bursting of the container.

Hazardous decomposition products

When exposed to high temperatures hazardous decomposition products such as smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates may be produced.

11 Section 11: Toxicological Information

Material Safety Data Sheet

Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 11 of 15
version no. 10
GB EN 00000000004
11

The preparation has been assessed following the conventional method of the Dangerous Preparation Directive 1999/45/EC. See Sections 3 and 15 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated and prolonged exposure to solvents at levels significantly above OELs may lead to the development of long-lasting central nervous system disorders such as chronic toxic encephalopathy, signs of toxicity include changes in behaviour and memory.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin.

The liquid splashed in the eyes may cause irritation and reversible damage.

Based on the properties of the isocyanate components and considering toxicological data on similar product, this product may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the occupational exposure limit. Repeated inhalation may lead to a permanent respiratory disability.

12 Section 12: Ecological Information

General

There are no test results available for this product.

The preparation has been assessed following the conventional method of the Dangerous Preparation Directive 1999/45/EC and is not classified as dangerous for the environment.

The product should not be allowed to enter drains or water courses.

The Air Pollution Control requirements of regulations made under the Environmental Protection Act may apply to the use of this product.

Material Safety Data Sheet
Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 12 of 15
version no. 10
GB EN 00000000004
12

13 Section 13: Disposal Considerations

Waste treatment methods

Observe national and local legal requirements.

Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act. Using information provided in this data sheet, advice should be obtained from the Environment Agency whether the special waste regulations apply.

European list of wastes

Commission Decision 2000/532/EC dated 3rd May, 2000

08 01 11*

Waste from the manufacture, formulation, supply and use (MFSU) and removal of paint and varnish;
waste paint and varnish containing organic solvents or other dangerous substances

Any waste marked with an asterisk (*) is considered as a hazardous waste pursuant to Directive 91/689/EEC on hazardous waste.

Contaminated packaging

Recommendation

Containers which are not properly emptied must be disposed pursuant to Directive 91/689/EEC

Residues in empty containers should be neutralised with decontaminant (see section 6).

14 Section 14: Transport Information

Transport by Road or Rail

UN 1866, Resin Solution, 3, III, (D/E), ADR/RID
Special provision 640 E
Hazard identification number 30

Sea Transport

UN 1866, RESIN SOLUTION, 3, III
EMS: F-E, S-E

Air Transport

UN 1866, RESIN SOLUTION, 3, III

Material Safety Data Sheet
Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 13 of 15
version no. 10
GB EN 00000000004
13

Special precautions for user
none

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

Additonal Information

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of accident or spillage.

15 Section 15: Regulatory Information

Information pursuant to VOC Directive 1999/13/EC (for product as supplied)

Volatile organic solvents: 10 %
VOC : 10 %
Volatile CMR substances : n.a.
Volatile halogenated substances labelled with R40:
n.a.

Details relating to the VOC Directive 2004/42/EC

Subcategory as indicated in Annex IIB : n.a.
Limit value for maximum VOC content
as specified in Annex IIB : n.a.

National Regulations

The Control of Substances Hazardous to Health Regulations 2002
The Manual Handling Operations Regulations 1992
Storage of Packaged Dangerous Substances, HS(G)71
The Environmental Protection Act
The Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972 (SI 1972:917)
Storage of Flammable Liquids in Containers, HS(G)51
Your Health and 2 pack Spray Paints, MS(B)8, HSE
HSE Guidance Note EH 16

16 Section 16: Other Information

Restricted to professional users.

This Safety Data Sheet is prepared in accordance with Regulation (EC) No 1907/2006, Annex II.

The information contained in this safety data sheet does not relieve users from the obligation to carry out their own risk

Material Safety Data Sheet
Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 14 of 15
version no. 10
GB EN 00000000004
14

assessment according to Directive 98/24/EC.

Full text of risk warnings for components listed in section 3

R10

Flammable.

R20

Harmful by inhalation.

R23

Toxic by inhalation.

R36/37/38

Irritating to eyes, respiratory system and skin.

R37

Irritating to respiratory system.

R42/43

May cause sensitization by inhalation and skin contact.

R43

May cause sensitization by skin contact.

R66

Repeated exposure may cause skin dryness or cracking.

R67

Vapours may cause drowsiness and dizziness.

H226

Flammable liquid and vapour.

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

H319

Causes serious eye irritation.

H331

Toxic if inhaled.

H332

Harmful if inhaled.

H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335

May cause respiratory irritation.

H336

May cause drowsiness or dizziness.

T Toxic

Xn Harmful

For multi-pack systems observe material safety data sheets of all components.

Explanation of abbreviations:

n.d.a. no data available

Material Safety Data Sheet
Safety data sheet according to Regulation (EC) No. 1907/2006

Product name: **H420 1L hardener**
Product code : **SC20-02EF RM01**
Printing date : 27.07.2012
Revision date : 23.07.2012

page 15 of 15
version no. 10
GB EN 00000000004
15

n.a. not applicable

WEL-L Workplace exposure limit - long
WEL-S Workplace exposure limit - short

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.