

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name**           **HARDENER S 66/22 R**  
**Synonym(s)**            *NSN: 8030-17-050-7182 • NSN: 8030-17-056-0301 • PART NO: S66/22-R-1L*  
90030/000000 - PRODUCT CODE • A36869 - SDS CODE • AKZO NOBEL HARDENER S 66/22 R •  
HARDENER S 66/22 R • S 66/22 R HARDENER

### 1.2 Uses and uses advised against

**Use(s)**                    HARDENER • TWO COMPONENT COATING

### 1.3 Details of the supplier of the safety data sheet

**Supplier name**       **AKZO NOBEL CAR REFINISHES PTY LTD**  
**Address**             269 Williamstown Rd, Port Melbourne, VIC, Australia, 3207  
**Telephone**         (03) 9646 5988  
**Fax**                 (03) 9644 1777  
**Email**              ANACMSDS@akzonobel.com  
**Website**            <http://www.akzonobel.com/aac/>

### 1.4 Emergency telephone number(s)

**Emergency**            1800 680 071

### 1.5 Details of alternative supplier(s) of the product

**Supplier name:**       **AKZO NOBEL AEROSPACE COATINGS (NETHERLANDS)**  
Rijksstraatweg 31, 2171 BA Sassenheim, P.O. Box 3  
Phone: +31 71 3082123  
Emergency: (Emergency) +31 (0) 71 308 6944  
Email: ANACMSDS@akzonobel.com  
Website: <http://www.anac.com>

**Supplier name:**       **AKZO NOBEL AEROSPACE COATINGS INC**  
1 East Water St, Waukegan, IL, 60085  
Phone: +1 847 623 4200  
Emergency: (Emergency) +1 703 527 3887  
Email: [customer.service@akzonobel.com](mailto:customer.service@akzonobel.com)  
Website: <http://www.anac.com>

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS Classification(s)**   Flammable Liquids: Category 3  
Skin Corrosion/Irritation: Category 2  
Skin Sensitisation: Category 1  
Serious Eye Damage / Eye Irritation: Category 2A  
Acute Toxicity: Inhalation: Category 4  
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3  
Aquatic Toxicity (Chronic): Category 3

### 2.2 Label elements

**Signal word**            **WARNING**

**Product name**                    **HARDENER S 66/22 R**

**Pictograms**



**Hazard statement(s)**

- H226                    Flammable liquid and vapour.
- H315                    Causes skin irritation.
- H317                    May cause an allergic skin reaction.
- H319                    Causes serious eye irritation.
- H332                    Harmful if inhaled.
- H335                    May cause respiratory irritation.
- H336                    May cause drowsiness or dizziness.
- H412                    Harmful to aquatic life with long lasting effects.

**Prevention statement(s)**

- P210                    Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P233                    Keep container tightly closed.
- P240                    Ground/bond container and receiving equipment.
- P241                    Use explosion-proof electrical/ventilating/lighting equipment.
- P243                    Take precautionary measures against static discharge.
- P261                    Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264                    Wash thoroughly after handling.
- P271                    Use only outdoors or in a well-ventilated area.
- P272                    Contaminated work clothing should not be allowed out of the workplace.
- P273                    Avoid release to the environment.
- P280                    Wear protective gloves/protective clothing/eye protection/face protection.

**Response statement(s)**

- P303 + P361 + P353    IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340            IF INHALED: Remove 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 is advised - see first aid instructions.
- P333 + P313            If skin irritation or rash occurs: Get medical advice/attention.
- P337 + P313            If eye irritation persists: Get medical advice/attention.
- P362                    Take off contaminated clothing and wash before re-use.
- P370 + P378            In case of fire: Use appropriate media for extinction.

**Storage statement(s)**

- P403 + P233 + P235    Store in a well-ventilated place. Keep cool. Keep container tightly closed.
- P405                    Store locked up.

**Disposal statement(s)**

- P501                    Dispose of contents/container in accordance with relevant regulations.

**2.3 Other Hazards**

No information provided.

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

**3.1 Substances / Mixtures**

Ingredient	CAS number	EC number	Content
N-BUTYL ACETATE	123-86-4	204-658-1	50 - 75%
HEXAMETHYLENE DIISOCYANATE, OLIGOMERS	28182-81-2	500-060-2	25 - 50%
XYLENE	1330-20-7	215-535-7	2.5 - 10%

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Ingredient	CAS number	EC number	Content
ETHYLBENZENE	100-41-4	202-849-4	1 - 2.5%
HEXAMETHYLENE DIISOCYANATE (HMDI)	822-06-0	212-485-8	<1%

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator where an inhalation risk exists. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
<b>First aid facilities</b>	Eye wash facilities and safety shower should be available.

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

May cause sensitisation by inhalation and skin contact. Individuals with pre-existing respiratory impairment (eg asthmatics) or known sensitivities to isocyanates should avoid exposure.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains and waterways.

### 5.2 Special hazards arising from the substance or mixture

Flammable. May evolve toxic gases (carbon/ nitrogen oxides, isocyanates, cyanides, hydrocarbons) when heated to decomposition. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, etc when handling. Earth containers when dispensing fluids.

### 5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code

•3Y

- Alcohol Resistant Foam is the preferred firefighting medium. Else use;
- 3 Normal Foam (protein based foam that is not alcohol resistant).
- Y Risk of violent reaction or explosion. Wear full fire kit and breathing apparatus. Contain spill and run-off.

## 6. ACCIDENTAL RELEASE MEASURES

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**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Only trained personnel should undertake clean up.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

**7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled and protected from physical damage when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation and fire protection systems.

**7.3 Specific end use(s)**

No information provided.

**8. EXPOSURE CONTROLS/ PERSONAL PROTECTION**

**8.1 Control parameters**

**Exposure standards**

Substance	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Ethyl benzene	SWA (AUS)	100	434	125	543
Isocyanates, all (as-NCO)	SWA (AUS)	--	0.02	--	0.07
Xylene	SWA (AUS)	80	--	150	--
n-Butyl acetate	SWA (AUS)	150	713	200	950

**Biological limits**

Ingredient	Reference	Determinant	Sampling time	BEI
ETHYLBENZENE	ACGIH BEI	Sum of mandelic acid and phenylglyoxylic acid in urine	End of shift at end of workweek	0.7 g/g creatinine
	ACGIH BEI	Ethyl benzene in end-exhaled air	Not critical	-
XYLENE	ACGIH BEI	Methylhippuric acids in urine	End of shift	1.5 g/g creatinine

**8.2 Exposure controls**

**Engineering Controls**

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Flammable/explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

**PPE**

<b>Product name</b>	<b>HARDENER S 66/22 R</b>
<b>Eye/Face</b>	Wear splash-proof goggles.
<b>Hand</b>	Wear PVA or viton (R) gloves.
<b>Body</b>	Wear coveralls.
<b>Respiratory</b>	Wear a Type A (Organic vapour) respirator a Approved respirator. If sanding dry product, wear a Class P1 (Particulate) respirator a Approved respirator. If spraying, with prolonged use, or if in confined areas, wear an Air-line respirator a Approved respirator.



**9. PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	LIQUID
<b>Odour</b>	CHARACTERISTIC ODOUR
<b>Odour Threshold</b>	NOT AVAILABLE
<b>Flammability</b>	FLAMMABLE
<b>Flash Point</b>	27°C (cc)
<b>Boiling Point</b>	126°C
<b>Melting Point</b>	NOT AVAILABLE
<b>Evaporation Rate</b>	NOT AVAILABLE
<b>pH</b>	ACIDIC
<b>Specific Gravity</b>	0.955
<b>Solubility (water)</b>	INSOLUBLE
<b>Vapour Density</b>	4.02 (Air = 1)
<b>Vapour Pressure</b>	NOT AVAILABLE
<b>Upper Explosion Limit</b>	NOT AVAILABLE
<b>Lower Explosion Limit</b>	NOT AVAILABLE
<b>Partition Coefficient</b>	NOT AVAILABLE
<b>Autoignition Temperature</b>	NOT AVAILABLE
<b>Decomposition Temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	42 cSt @ 20°C
<b>Explosive Properties</b>	NOT AVAILABLE
<b>Oxidising Properties</b>	NOT AVAILABLE

**9.2 Other information**

No information provided.

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## 10. STABILITY AND REACTIVITY

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### 10.1 Reactivity

Carefully review all information in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

May polymerise on contact with water or other materials that react with isocyanates.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide), alcohols, amines, heat and ignition sources. Reacts with water or moisture, generating carbon dioxide, which may cause container rupture.

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon/ nitrogen oxides, isocyanates, cyanides, hydrocarbons) when heated to decomposition.

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## 11. TOXICOLOGICAL INFORMATION

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### 11.1 Information on toxicological effects

<b>Acute toxicity</b>	Harmful if inhaled.
<b>Skin</b>	Contact may result in irritation, redness, rash and dermatitis.
<b>Eye</b>	Contact may result in irritation, lacrimation, pain and redness.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	Insufficient data available to classify as a carcinogen.
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin.
<b>STOT - single exposure</b>	Over exposure may result in irritation of the nose and throat, coughing, nausea, dizziness and headache. High level exposure may result in breathing difficulties and unconsciousness.
<b>STOT - repeated exposure</b>	Repeated exposure may damage the respiratory system resulting in irritation of the respiratory tract and lung tissue damage. Repeated exposure to some solvents have been reported to cause adverse effects to the central nervous system (CNS), liver and kidney.
<b>Aspiration</b>	Aspiration into the lungs may cause chemical pneumonitis and pulmonary oedema.
<b>Sensitisation</b>	May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to low concentrations of isocyanates may cause asthma-like symptoms, including tightness of the chest, coughing, wheezing and shortness of breath.

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**12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Results of PBT and vPvB assessment**

No information provided.

**12.6 Other adverse effects**

SOIL: If aromatic hydrocarbons are released to soil, they will evaporate from near-surface soil & leach to groundwater. WATER: Biodegradation of aromatics occurs both in soil & groundwater but may be slow. Isocyanates will react with water producing carbon dioxide. ATMOSPHERE: Aromatic hydrocarbons will exist largely as vapour. Half life in atmosphere varies, (eg 1-2 days (xylene); 3 hrs-1 day (toluene)).

**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Waste disposal** Mix components together (small amounts), absorb with sand, vermiculite or similar and dispose of to an approved landfill site. Ensure protective equipment is worn when mixing. Do not seal containers/tins until reaction is complete. Contact the manufacturer/supplier for additional information (if required). Prevent contamination of drains and waterways as environmental damage may result.

**Legislation** Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION**

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	Land Transport (ADG)	Sea Transport (IMDG/IMO)	Air Transport (IATA/ICAO)
<b>14.1 UN number</b>	1263	1263	1263
<b>14.2 UN proper shipping name</b>	PAINT or PAINT RELATED MATERIAL		

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**14.3 Transport hazard classes**

<b>DG Class</b>	3	3	3
<b>Subsidiary risk(s)</b>	None Allocated	-	-

**14.4 Packing group**

III	III	III
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**14.5 Environmental hazards**

Not a Marine Pollutant

**14.6 Special precautions for user**

<b>Hazchem Code</b>	•3Y	
<b>EMS</b>		F-E, S-E

**15. REGULATORY INFORMATION**

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

**Poison schedule**                    Classified as a Schedule 5 Poison using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications**

F - Flammable  
 N - Dangerous for the environment  
 Xi - Irritant  
 Xn - Harmful

**Risk phrases**

R10:                                    Flammable.  
 R20:                                    Harmful by inhalation.  
 R36/37/38:                            Irritating to eyes, respiratory system and skin.  
 R43:                                    May cause sensitisation by skin contact.  
 R52/53:                                Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
 R67:                                    Vapours may cause drowsiness and dizziness.

**Safety phrases**

S16:                                    Keep away from sources of ignition - No smoking.  
 S23:                                    Do not breathe gas/fumes/vapour/spray (where applicable).  
 S24/25:                                Avoid contact with skin and eyes.  
 S36/37/39:                            Wear suitable protective clothing, gloves and eye/face protection.  
 S45:                                    In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).  
 S61:                                    Avoid release to the environment. Refer to special instructions/safety data sheets.

**WHS regulatory information**

Ingredient name	CAS number	Regulation	Details
HEXAMETHYLENE DIISOCYANATE (HMDI)	822-06-0	Schedule 14 - Health Monitoring	Isocyanates
HEXAMETHYLENE DIISOCYANATE, OLIGOMERS	28182-81-2	Schedule 14 - Health Monitoring	Isocyanates

**Inventory listing(s)**                **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
 All components are listed on AICS, or are exempt.

**15.2 Chemical safety assessment**

No information provided.

**16. OTHER INFORMATION**

**Additional information**            This is a two part product. Please refer to the appropriate SDS before use.

WORK PRACTICES - SOLVENTS: Organic solvents may present both a health and flammability hazard. It is



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recommended that engineering controls should be adopted to reduce exposure where practicable (for example, if using indoors, ensure explosion proof extraction ventilation is available). Flammable or combustible liquids with explosive limits have the potential for ignition from static discharge. Refer to AS 1020 (The control of undesirable static electricity) and AS 1940 (The storage and handling of flammable and combustible liquids) for control procedures.

Spillage decontaminants for isocyanates: For TDI or HMDI, use a mixture of sawdust (20%), silica sand (or china clay or Fuller's Earth) (40%) and a breakdown solution (40%). The breakdown solution is made up of water (90%), non-ionic surfactant (2%) and concentrated ammonia (8% v/v). For spillage of any other isocyanate a solid absorbent of silica sand or sawdust may be used.

ISOCYANATES: Asthma sufferers, respiratory impaired or previously sensitised individuals are advised to avoid all exposure to isocyanates. Please note that products containing isocyanates often require the preparation of safe working procedures before product is used.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

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**Report Status**            This ChemAlert report has been independently compiled by RMT's scientific department utilising the original Safety Data Sheet ('SDS') for the product provided to RMT by the manufacturer. The information is based on the latest chemical and toxicological research and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. It is an independent collation by RMT of information obtained from the original SDS for this product. Its content has not been authorised or verified by the manufacturer / distributor of the chemical to which it relates.

This ChemAlert report does not constitute the manufacturer's original SDS and is not intended to be a replacement for same. It is provided to subscribers of ChemAlert as a reference tool only, is not all-inclusive and does not represent any guarantee as to the properties of the product. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this ChemAlert report, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this ChemAlert report.

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**End of Report**