

SAFETY DATA SHEET

VIEROL AG

Product: Vaico Antifreeze V-60-0020-A

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Date of Issue: November 2010

SECTION 1 – IDENTIFICATION OF MATERIAL AND SUPPLIER

SUPPLIER: VIEROL AG

ADDRESS: Karlstraße 19

TELEPHONE: +49 441 21020-0

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WEB PAGE: www.vierol.de

AH EMERGENCY TELEPHONE: 13 1126 (Poisons Information Centre).



Product Name: Vaico Antifreeze V-60-0020-A

Product Use: Anti freeze coolant.

Manufacturer's Product Code: Not applicable.

Creation Date: 8 November 2010.

Revision Date: By 7 November 2015.

SECTION 2 – HAZARDS IDENTIFICATION

This product is classified as a **HAZARDOUS SUBSTANCE** according to criteria of the National Occupational Health and Safety Commission Australia (NOHSC, now Safe Work Australia) and **NON-DANGEROUS GOODS** according to the Australian Dangerous Goods (ADG) Code.

Hazard Category: Xn: Harmful.

Emergency Overview: Harmful if swallowed. May cause irritation through inhalation, eye and skin contact. Repeated ingestion may cause kidney damage. Repeated overexposure may aggravate an existing kidney disease. High doses may result in reproductive and developmental toxicity following exposure by the oral and inhalation (respirable aerosol) routes.

Skin Contact: This product may be harmful and cause irritation in contact with skin. Symptoms may include redness and itchiness. Repeated or prolonged skin contact may lead to dermatitis.

Inhalation: Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.

Ingestion: Harmful if swallowed. Ingestion of this product will irritate the gastric tract causing nausea and vomiting.

Eye Contact: This product may cause irritation to eyes. Symptoms may include redness, tearing, stinging and blurred vision.

Potential Chronic Health Effects: Repeated ingestion may cause kidney damage. Repeated overexposure may aggravate an existing kidney disease.

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SECTION 2 – HAZARDS IDENTIFICATION (CONTINUED)

Reproductive and Developmental Toxicity:	High doses of ethylene glycol in rats and mice have resulted in reproductive and developmental toxicity following exposure by the oral and inhalation (respirable aerosol) routes. This product contains an ingredient Sodium 2-ethylhexanoate which exhibits the following effects on reproductive and developmental toxicity: <u>Developmental Toxicity - rat – Oral:</u> Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system. <u>Specific Developmental Abnormalities:</u> Urogenital system. <u>Reproductive toxicity - mouse – Intraperitoneal:</u> Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Specific Developmental Abnormalities: Central Nervous System.
Primary Routes of Exposure:	Skin, inhalation.
Risk Statements:	R22: Harmful if swallowed.
Safety Statements:	S2: Keep out of the reach of children. S46: If swallowed, seek medical advice immediately and show this container or label S53: Avoid exposure - obtain special instructions before use. S60: This material and its container must be disposed of as hazardous waste.
SUSDP:	Poisons Schedule Number 6 allocated.
Proper Shipping Name:	None allocated.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients:	CAS Number:	Proportion:
Ethylene Glycol	107-21-1	> 60% w/w
Sodium 2-ethylhexanoate	19766-89-3	1 - < 4.9% w/w
Non-Hazardous Ingredients	Not Applicable	To 100% w/w
Total		100% w/w

SECTION 4 – FIRST AID MEASURES

Scheduled Poisons:	Poisons Information Centre in each Australian State capital city can provide additional assistance for scheduled poisons. (Phone Australia 13 1126) or a doctor (at once).
First Aid Facilities Required:	Eye wash fountains and a general washing facility should be easily accessible in the immediate work area.
Inhalation:	Remove victim from area of exposure – avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.
Skin contact:	If skin or hair contact occurs, immediately remove any contaminated clothing, including footwear. Flush skin and hair thoroughly with plenty of water and soap for at least 15 minutes. Launder contaminated clothing before reuse. If symptoms develop seek medical attention.

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SECTION 4 – FIRST AID MEASURES (CONTINUED)

Eye contact:	If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. In all cases of eye contamination it is a sensible precaution to seek medical attention.
Ingestion (Swallowed):	If swallowed DO NOT induce vomiting. Wash out mouth thoroughly with water. Seek immediate medical attention.
Advice to Doctor:	Treat symptomatically. Ethylene glycol can cause central nervous system depression and metabolic acidosis. Consider removal by gastric lavage. Blockade of the diacid/hydroxyacid metabolites may follow competitive inhibition of alcohol dehydrogenase with ethanol or 4-methyl pyrazole. Consider maintenance of a plasma ethanol level of 100 mg/dL to 150 mg/dL. Poisons Information Centre in each Australian State capital city can provide additional assistance for scheduled poisons.

SECTION 5 – FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Use dry chemical, carbon dioxide, water mist or alcohol resistant foam. Water may cause frothing.
Hazards from Combustion Products:	Upon combustion, this product may emit carbon monoxide, carbon dioxide, aldehydes, ketones, and other possibly toxic and/or irritating gases and vapours.
Fire Hazards:	Fire: Flammable Liquid Class C1. Product will readily burn under fire conditions.
Precautions for Fire Fighters:	If a significant quantity of this product is involved in a fire, call the fire brigade. Immediately evacuate the area of unnecessary personnel. Firefighters should wear safety boots, non-flammable overalls, gloves, hat, goggles, and self contained breathing equipment. Heating can cause expansion or decomposition of the material which can lead to the container(s) exploding. Keep containers cool with water spray. If safe to do so, remove container(s) from the path of the fire if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Dyke for later disposal. Use extinguishing agents for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.
Hazchem Code:	Not Applicable.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spills:	
Emergency Procedures:	Do not allow to enter drainage system, surface or ground water. In the event of product entering waters or drainage system, or polluting soil or plants contact the Environmental Protection Authority or your local Waste Management Authority.
Spills:	Wear appropriate personal protective equipment and clothing to prevent exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unprotected personnel. If possible contain the spill. Place inert absorbent, non-combustible material onto spillage. Use clean non-sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations

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SECTION 7 – HANDLING AND STORAGE

Handling:	Keep out of the reach of children. Avoid all personal contact, including skin and eye contact and inhalation of vapours and mists. Wear protective clothing, gloves and goggles/face mask when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. Avoid smoking, naked lights or ignition sources in storage, use or handling areas. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers closed at all times. Avoid physical damage to containers. Do not pressurise, cut, heat or weld containers as they may contain hazardous residues. Always wash hands with soap and water after handling. Launder contaminated clothing before re-use.
Storage:	Avoid all sources of ignition – (heat, sparks, static electricity, open flame). Use proper grounding procedures. Store in a well-ventilated area. Store in a cool, dry place (<35°C) and out of direct sunlight. Store away from incompatible substances including Oxidizing Substances, Strong Acids and foodstuffs. Keep containers closed at all times – check regularly for leaks. Have appropriate fire extinguishers available in and near the storage area. For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids. Reference should also be made to all applicable local and national regulations.
Flammability:	Flammable Liquid Class C1.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

National Exposure Standards:	National Occupational Exposure Standards, as published by National Occupational Health & Safety Commission (NOHSC, now Safe Work Australia): Time-weighted Average (TWA): None established for product. ES-TWA for Ethylene Glycol is 20 ppm, 52 mg/m ³ . Short Term Exposure Limit (STEL): None established for product. ES-STEL for Ethylene Glycol is 40 ppm, 104 mg/m ³ . These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity. The adopted Occupational Exposure Standards listed only consider absorption via inhalation, and are valid only on the condition that significant skin absorption cannot occur.
Biological Limit Values:	No biological limit allocated.
Engineering Controls:	None required when handling small quantities. If mists or vapours are produced local exhaust ventilation should be used. Ensure for good ventilation/ suction and use only in a well-ventilated area. If using indoors, keep windows and doors open during use. Keep containers closed when not in use. Ensure airflow, where this product is used, is directed away from the operators. Ensure ventilation is adequate to maintain air concentrations below exposure standards. If this is not possible, use appropriate personal protective equipment.

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SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION (CONTINUED)

Personal Protection:

Respiratory protective equipment: Suitable breathing mask equipment (meeting the requirements of AS/NZS 1715 and AS/NZS 1716) where ventilation is inadequate to maintain air concentrations below exposure standards.

Eye protection: The use of face shields, chemical goggles, or safety glasses with side shield protection (meeting the requirements of AS/NZS 1337) is recommended.

Hand protection: Chemical resistant gloves (e.g. Butyl, Natural Rubber, Neoprene, PVC rubber gloves complying with AS 2161) are recommended.

Clothing: Suitable protective clothing.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Blue transparent liquid.

Odour: Mild odour.

pH: 8.7.

Vapour Pressure: Not available.

Vapour Density (air = 1): > 1.

Boiling Point/ Range: Ca 164°C.

Freezing/ Melting Point: - 40°C.

Solubility in Water: Soluble in water.

Solubility in Organic Solvents: Soluble in alcohol and organic solvents.

Density: Ca 1.1 kg/l.

Flashpoint: > 115°C (PMCC).

Flammability Limits: Not available.

Ignition Temperature: Not available.

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of use.

Conditions to Avoid: Avoid contact with incompatible materials. Avoid contact with heat, flames, sparks and other ignition sources.

Incompatible Materials: Strong oxidizing agents, strong acids. Exposure to direct sunlight is to be avoided.

Hazardous Decomposition: Upon combustion, this product may emit carbon monoxide, carbon dioxide, aldehydes, ketones, and other possibly toxic and/or irritating gases and vapours.

Hazardous Reactions: None known.

SECTION 11 – TOXICOLOGICAL INFORMATION

Health Effects: No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are described below.

Acute (Short Term):

Acute Toxicity Data (Oral): No data for product. On basis of ingredients:
Acute Toxicity for Ethylene Glycol, (Oral) LD₅₀ (rat) 4700 mg/kg.
Acute Toxicity for Ethylene Glycol, (Oral) TDL₀ (human) 1195 mg/kg.
Acute Toxicity for Ethylene Glycol, (Oral) LDL₀ (human) 398 mg/kg.

Acute Toxicity Data (Dermal): No data for product. On basis of ingredients:
Acute Toxicity for Ethylene Glycol, (Dermal) LD₅₀ (rabbit) 9.53 ml/kg.

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SECTION 11 – TOXICOLOGICAL INFORMATION (CONTINUED)

Acute Toxicity Data (Inhalation):	No data for product. On basis of ingredients: Acute Toxicity for Ethylene Glycol, (Inhalation) LC ₅₀ (rat) 200 mg/m ³ /4h. Acute Toxicity for Ethylene Glycol, (Inhalation) TCL ₀ (human) 10,000 mg/m ³ .
Ingestion (Swallowed):	Harmful if swallowed. Ingestion of this product will irritate the gastric tract causing nausea and vomiting.
Eye:	This product may cause irritation to eyes. Symptoms may include redness, tearing, stinging and blurred vision.
Skin:	This product may be harmful and cause irritation in contact with skin. Symptoms may include redness and itchiness. Repeated or prolonged skin contact may lead to dermatitis.
Inhaled:	Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.
Irritation:	<u>Skin:</u> (rabbit, Draize) (ethylene glycol): Mild irritant <u>Eye:</u> (rabbit, Draize) (ethylene glycol): Mild irritant This product contains an ingredient Sodium 2-ethylhexanoate which causes skin irritation.
Chronic Toxicity Data:	Repeated ingestion may cause kidney damage. Repeated overexposure may aggravate an existing kidney disease.
Mutagenicity:	No data for product.
Carcinogenicity:	No data for product. None of the ingredients of this product are listed by IARC, NTP, ACGIH, or OSHA as a carcinogen.
Reproductive and Developmental Toxicity:	High doses of ethylene glycol in rats and mice have resulted in reproductive and developmental toxicity following exposure by the oral and inhalation (respirable aerosol) routes. This product contains an ingredient Sodium 2-ethylhexanoate which exhibits the following effects on reproductive and developmental toxicity: <u>Developmental Toxicity - rat – Oral:</u> Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system. Specific <u>Developmental Abnormalities:</u> Urogenital system. <u>Reproductive toxicity - mouse – Intraperitoneal:</u> Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Specific Developmental Abnormalities: Central Nervous System.

SECTION 12 – ECOLOGICAL INFORMATION

Acute (Short Term) Ecotoxicity:	
Fish toxicity:	None available for product. On basis of ingredients: Acute Toxicity for Ethylene Glycol, Fathead minnow (<i>Pimephales promelas</i>), LC ₅₀ > 10,000 mg/l/24h, LC ₅₀ 81,950 mg/l/48h, LC ₅₀ 72,860 mg/l/96h.
Invertebrates toxicity:	None available for product. On basis of ingredients: Acute Toxicity for Ethylene Glycol, <i>Daphnia magna</i> , LC ₅₀ > 10,000 mg/l/24h.
Algae toxicity:	None available for product. On basis of ingredients: Acute Toxicity for Ethylene Glycol, Green algae order (<i>Chlorococcales</i>), EC ₁₀ > 1000 mg/l.

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SECTION 12 – ECOLOGICAL INFORMATION (CONTINUED)

Toxicity to Microorganisms:	None available for product.
Persistence/degradability:	None available for product. On basis of ingredients: Ethylene glycol released to the atmosphere will be degraded by reaction with hydroxyl radicals; the half-life for this reaction has been estimated at between 0.3 and 3.5 days. Ethylene glycol is readily biodegradable in standard tests using sewage sludge. Many studies show biodegradation under both aerobic and anaerobic conditions. Some studies suggest a lag phase before degradation, but many do not. Degradation occurs in both adapted and unadapted sludges. Rapid degradation has been reported in surface waters (less in salt water than in fresh water), groundwater, and soil inocula. Several strains of microorganisms capable of utilizing ethylene glycol as a carbon source have been identified.
Mobility:	Miscible with water. If product enters soil, Ethylene Glycol has little or no capacity to bind to particulates and will be mobile in soil.
Bioaccumulation:	None available for product. On basis of ingredients, Ethylene Glycol does not bioaccumulate significantly with estimated Bioconcentration Factors (BCF) of 190 for the green algae (<i>Chlorella fusca</i>), up to 0.27 in specific tissues of the crayfish (<i>Procambarus</i> sp.) and 10 for the Golden Orfe (<i>Leuciscus idus melanotus</i>).
General:	DO NOT DISCHARGE INTO DRAINS, WATERWAYS, SEWER OR ENVIRONMENT. Product immiscible with water and floats on water. Keep from entering waste-water, soil or surface waters. Inform local authorities if this occurs.

SECTION 13 – DISPOSAL CONSIDERATIONS

Disposal methods:	Refer to Waste Management Authority. Dispose of material through a licensed chemical waste collection agent.
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SECTION 14 – TRANSPORT INFORMATION

Transport:	<u>Road and Rail:</u> This product is not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail. <u>Marine:</u> This product is not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by Sea. <u>Air:</u> This product is not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by Air.
UN Number:	Not applicable.
Proper Shipping Name:	Not applicable.
Class:	Not applicable.
Sub Risk:	Not applicable.
Packing Group:	Not applicable.
HAZCHEM Code:	Not applicable.
IERG:	Not applicable.

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SECTION 15 – REGULATORY INFORMATION

SUSDP:	Poisons Schedule Number S6 allocated.
AICS:	This product contains an ingredient (Sodium 2-ethylhexanoate) which is not listed on the Australian Inventory of Chemical Substances (AICS).
Classification:	This material is hazardous according to criteria of the National Occupational Health and Safety Commission Australia (NOHSC, now Safe Work Australia).
Hazard Category:	Xn: Harmful.
Risk Statements:	R22: Harmful if swallowed.
Safety Statements:	S2: Keep out of the reach of children. S46: If swallowed, seek medical advice immediately and show this container or label S53: Avoid exposure - obtain special instructions before use. S60: This material and its container must be disposed of as hazardous waste.

SECTION 16 – OTHER INFORMATION

Acronyms and Comments:	
ACGIH:	American Conference of Industrial Hygienists.
ADG Code:	Australian Code for the Transport of Dangerous Goods by Road and Rail.
AICS:	Australian Inventory of Chemical Substances.
CAS Number:	Chemical Abstracts Service Registry Number.
HAZCHEM:	An emergency action code of numbers and letters which gives information to emergency services.
IARC:	International Agency for Research on Cancer.
IERG:	Dangerous Goods Initial Emergency Response Guide (SAA/SNZ HB 76:2010 Standards Australia/Standards New Zealand).
NTP:	National Toxicology Program (USA Department of Health and Human Services).
OSHA:	Occupational Safety and Health Administration (USA).
Safe Work Australia:	Safe Work Australia was formerly the Australian Safety and Compensation Council, which included the National Occupational Health and Safety Commission (NOHSC).
SDS:	Safety Data Sheet.
STEL:	Exposure standard - short term exposure limit, a 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.
SUSDP:	Standard for the Uniform Scheduling of Drugs and Poisons.
TWA:	Exposure standard - time-weighted average, the average airborne concentration of a particular substance when calculated over a normal eight hour working day, for a five-day working week.
UN Number:	United Nations Number.
Issue Date:	8 November 2010.
Supersedes Issue Date:	New Issue.
Revision Information:	Not applicable.
Contact Point:	Regulatory Affairs Manager.
Telephone:	(03) 8416 8455.
Note:	Safety Data Sheets are updated frequently. Please ensure that you have a current copy.

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SECTION 16 – OTHER INFORMATION (CONTINUED)

Disclaimer:

This SDS summarises at the date of issue our best knowledge of the health and safety hazard information of this product, and in particular how to safely handle and use this product in the workplace. Since hsy autoparts cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this SDS in the context of how the user intends to handle and use the product in the workplace. This SDS does not represent a guarantee for the properties of the product(s) described in terms of the legal warranty regulations. If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.