



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product identifier 2.1 VOC 2K URETHANE PRIMER CATALYST
Version # 01
Issue date 11-17-2015
CAS # Mixture
Product Code AD-321-HP
Product use Automotive Refinish Hardener/Activator
Manufacturer information ADVANTAGE REFINISH PRODUCTS
a division of IAMG/International Autobody Marketing Group
1505 N. Hayden Road
Suite 111
Scottsdale, Arizona 85257
United States
www.advantagerefinish.com
General Assistance 1-87-REFINISH
Chemtrec 1-800-424-9300
Supplier Not available.

2. Hazards Identification

Emergency overview DANGER

Flammable liquid - may release vapors that form flammable mixtures at or above the flash point. Will be easily ignited by heat, spark or flames. Heat may cause the containers to explode. Cancer hazard. Irritating to eyes and skin.

Prolonged exposure may cause chronic effects.

Potential health effects
Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.
Eyes Contact with eyes may cause irritation. Avoid contact with eyes.
Skin May cause skin irritation. Avoid contact with the skin.
Inhalation May cause cancer by inhalation. May cause irritation of respiratory tract. Prolonged inhalation may be harmful. Do not breathe dust/fume/gas/mist/vapors/spray.
Ingestion Irritating. May cause nausea, stomach pain and vomiting. Do not ingest.
Chronic effects Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Signs and symptoms Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
Potential environmental effects Components of this product are hazardous to aquatic life. May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Methyl Acetate	79-20-9	40 - 70
1-Methoxy-2-propyl acetate	108-65-6	3 - 7
Ethylbenzene	100-41-4	1 - 5
N-butyl Acetate	123-86-4	1 - 5
Xylene	1330-20-7	1 - 5
Hexamethylenediisocyanate	822-06-0	0.1 - 1
Other components below reportable levels		15 - 40

4. First Aid Measures

First aid procedures

Inhalation

Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention, if needed.

Skin contact

Take off immediately all contaminated clothing. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists. For minor skin contact, avoid spreading material on unaffected skin.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth thoroughly. Never give anything by mouth to a victim who is unconscious or is having convulsions. If ingestion of a large amount does occur, call a poison control center immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to physician

In case of shortness of breath, give oxygen. Symptoms may be delayed.

General advice

In case of shortness of breath, give oxygen. If you feel unwell, seek medical advice (show the label where possible). Get medical attention if symptoms occur. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Keep victim under observation. Keep victim warm.

5. Fire Fighting Measures

Flammable properties

Flammable by WHMIS criteria. Heat may cause the containers to explode. Vapors may travel considerable distance to a source of ignition and flash back.

Extinguishing media

Suitable extinguishing media

Powder. Foam. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Protection of firefighters

Specific hazards arising from the chemical

Fire may produce irritating, corrosive and/or toxic gases.

Protective equipment for firefighters

Firefighters should wear full protective clothing including self contained breathing apparatus.

Fire fighting equipment/instructions

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. In the event of fire, cool tanks with water spray. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Some of these materials, if spilled, may evaporate leaving a flammable residue.

Explosion data

Sensitivity to static discharge

Not available.

Sensitivity to mechanical impact

Not available.

Hazardous combustion products

Not available.

6. Accidental Release Measures

Personal precautions

Consider initial downwind evacuation for at least 500 meters (1/3 mile). Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the MSDS.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up	<p>Extinguish all flames in the vicinity. Should not be released into the environment.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. Clean up in accordance with all applicable regulations. For waste disposal, see section 13 of the MSDS.</p> <p>Clean up in accordance with all applicable regulations.</p>
Other information	

7. Handling and Storage

Handling	Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. All equipment used when handling the product must be grounded. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. When using do not eat or drink. Do not use in areas without adequate ventilation. Wear personal protective equipment. Wash thoroughly after handling. Avoid release to the environment.
Storage	Do not handle or store near an open flame, heat or other sources of ignition. Keep at temperature not exceeding 49 °C. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a closed container away from incompatible materials. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Use care in handling/storage. Store away from incompatible materials (see Section 10 of the MSDS).

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Hexamethylenediisocyanate (CAS 822-06-0)	TWA	0.005 ppm
Methyl Acetate (CAS 79-20-9)	STEL	250 ppm
N-butyl Acetate (CAS 123-86-4)	TWA	200 ppm
	STEL	200 ppm
Xylene (CAS 1330-20-7)	TWA	150 ppm
	STEL	150 ppm
	TWA	100 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	STEL	543 mg/m3
	TWA	125 ppm
		434 mg/m3
Hexamethylenediisocyanate (CAS 822-06-0)	TWA	100 ppm
		0.03 mg/m3
		0.005 ppm
Methyl Acetate (CAS 79-20-9)	STEL	757 mg/m3
	TWA	250 ppm
		606 mg/m3
		200 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
N-butyl Acetate (CAS 123-86-4)	STEL	950 mg/m3
		200 ppm
	TWA	713 mg/m3
Xylene (CAS 1330-20-7)	STEL	150 ppm
		651 mg/m3
	TWA	150 ppm
		434 mg/m3
		100 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
1-Methoxy-2-propyl acetate (CAS 108-65-6)	STEL	75 ppm
	TWA	50 ppm
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Hexamethylenediisocyanate (CAS 822-06-0)	Ceiling	0.01 ppm
	TWA	0.005 ppm
Methyl Acetate (CAS 79-20-9)	STEL	250 ppm
	TWA	200 ppm
N-butyl Acetate (CAS 123-86-4)	TWA	20 ppm
Xylene (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Hexamethylenediisocyanate (CAS 822-06-0)	TWA	0.005 ppm
Methyl Acetate (CAS 79-20-9)	STEL	250 ppm
	TWA	200 ppm
N-butyl Acetate (CAS 123-86-4)	STEL	200 ppm
	TWA	150 ppm
Xylene (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
1-Methoxy-2-propyl acetate (CAS 108-65-6)	TWA	270 mg/m3
		50 ppm
Ethylbenzene (CAS 100-41-4)	STEL	125 ppm
	TWA	100 ppm
Hexamethylenediisocyanate (CAS 822-06-0)	Ceiling	0.02 ppm
	TWA	0.005 ppm
Methyl Acetate (CAS 79-20-9)	STEL	250 ppm
	TWA	200 ppm
N-butyl Acetate (CAS 123-86-4)	STEL	200 ppm
	TWA	150 ppm
Xylene (CAS 1330-20-7)	STEL	150 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
	TWA	100 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	STEL	543 mg/m3
		125 ppm
	TWA	434 mg/m3
		100 ppm
Hexamethylenediisocyanate (CAS 822-06-0)	TWA	0.034 mg/m3
		0.005 ppm
Methyl Acetate (CAS 79-20-9)	STEL	757 mg/m3
		250 ppm
	TWA	606 mg/m3
		200 ppm
N-butyl Acetate (CAS 123-86-4)	STEL	950 mg/m3
		200 ppm
	TWA	713 mg/m3
		150 ppm
Xylene (CAS 1330-20-7)	STEL	651 mg/m3
		150 ppm
	TWA	434 mg/m3
		100 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3
		100 ppm
Methyl Acetate (CAS 79-20-9)	PEL	610 mg/m3
		200 ppm
N-butyl Acetate (CAS 123-86-4)	PEL	710 mg/m3
		150 ppm
Xylene (CAS 1330-20-7)	PEL	435 mg/m3
		100 ppm

Biological limit values
ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Ethylbenzene (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
Xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment
Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Wear suitable protective clothing. Wear protective gloves.

Respiratory protection

Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection

Wear protective gloves.

9. Physical & Chemical Properties**Appearance****Physical state**

Liquid.

Form

Liquid.

Color

Clear colorless or nearly colorless

Odor

Solvent.

Odor threshold

Not available.

pH

Not available.

Vapor pressure

264.29 hPa estimated

Vapor density

Not available.

Boiling point

134.24 °F (56.8 °C) estimated

Melting point/Freezing point

-144.4 °F (-98 °C) estimated

Solubility (water)

Not available.

Specific gravity

0.99

Relative density

Not available.

Flash point

14.0 °F (-10.0 °C) estimated

Flammability limits in air, upper, % by volume

16 % estimated

Flammability limits in air, lower, % by volume

3.1 % estimated

Auto-ignition temperature

850 °F (454.44 °C) estimated

VOC

1 lbs/gal Material
3.2 g/l Regulatory
119 g/l Material
379 g/l Regulatory

Evaporation rate

Not available.

Percent volatile

78.01 %

Partition coefficient (n-octanol/water)

Not available.

Other data**Density**

8.27 lbs/gal

10. Chemical Stability & Reactivity Information**Chemical stability**

Risk of explosion.

Conditions to avoid

Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials

Strong acids. Strong oxidizing agents. Nitrates. Halogens.

Hazardous decomposition products

Not available.

Possibility of hazardous reactions

Hazardous polymerization does not occur.

11. Toxicological Information**Toxicological data****Components****Species****Test Results**

Ethylbenzene (CAS 100-41-4)

Acute**Dermal**

LD50

Rabbit

17800 mg/kg

Components	Species	Test Results
Oral		
LD50	Rat	3500 mg/kg
Hexamethylenediisocyanate (CAS 822-06-0)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	593 mg/kg
Inhalation		
LC50	Mouse	0.03 mg/l, 2 Hours
	Rat	40 mg/l, 1 Hours
		22 mg/l, 4 Hours
		0.385 mg/l, 6 Hours
Oral		
LD50	Mouse	1980 mg/kg
	Rat	960 mg/kg
Methyl Acetate (CAS 79-20-9)		
<u>Acute</u>		
Oral		
LD50	Rabbit	3.7 g/kg
N-butyl Acetate (CAS 123-86-4)		
<u>Acute</u>		
Inhalation		
LC50	Wistar rat	160 mg/l, 4 Hours
Oral		
LD50	Rat	14000 mg/kg
Xylene (CAS 1330-20-7)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 43 g/kg
Inhalation		
LC50	Mouse	3907 mg/l, 6 Hours
	Rat	6350 mg/l, 4 Hours
Oral		
LD50	Mouse	1590 mg/kg
	Rat	3523 - 8600 mg/kg
Acute effects		
Sensitization	Not available.	
Chronic effects	Hazardous by WHMIS criteria. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.	
Carcinogenicity	Hazardous by WHMIS criteria. Cancer hazard.	
ACGIH Carcinogens		
Ethylbenzene (CAS 100-41-4)	A3 Confirmed animal carcinogen with unknown relevance to humans.	
Xylene (CAS 1330-20-7)	A4 Not classifiable as a human carcinogen.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.	
Xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.	
Skin corrosion/irritation	Not available.	
Serious eye damage/irritation	Not available.	

Mutagenicity	Not available.
Reproductive effects	Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals.
Teratogenicity	Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals.
Synergistic materials	Not available.

12. Ecological Information

Ecotoxicological data

Components	Species		Test Results
Ethylbenzene (CAS 100-41-4)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1.37 - 4.4 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	7.5 - 11 mg/l, 96 hours
Methyl Acetate (CAS 79-20-9)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	295 - 348 mg/l, 96 hours
N-butyl Acetate (CAS 123-86-4)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	17 - 19 mg/l, 96 hours
Xylene (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	7.711 - 9.591 mg/l, 96 hours
Ecotoxicity	Components of this product are hazardous to aquatic life.		
Environmental effects	Harmful to aquatic organisms. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.		
Aquatic toxicity	Not available.		
Persistence and degradability	Not available.		
Partition coefficient			
Ethylbenzene		3.15	
Methyl Acetate		0.18	
N-butyl Acetate		1.78	
Xylene		3.12 - 3.2	

13. Disposal Considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

TDG

UN number	UN1263
UN proper shipping name	Paint, Paint Related Material
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	Not available.
Special precautions for user	Read safety instructions, MSDS and emergency procedures before handling.

IATA

UN number	UN1263
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UN proper shipping name	Paint, Paint Related Material
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3H
Special precautions for user	Read safety instructions, MSDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1263
UN proper shipping name	Paint, Paint Related Material
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, MSDS and emergency procedures before handling.

IATA; IMDG; TDG



15. Regulatory Information

Canadian regulations	This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.
WHMIS status	Controlled
WHMIS classification	B2 - Flammable Liquids D2A - Other Toxic Effects-VERY TOXIC D2B - Other Toxic Effects-TOXIC

WHMIS labeling



International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

HMIS® ratings

Health: 2*
Flammability: 3
Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 3
Instability: 0

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA BELIEVED TO BE RELIABLE AND THE MANUFACTURER DISCLAIMS ANY LIABILITY INCURRED FROM THE USE OR RELIANCE UPON THE SAME. THE INFORMATION GIVEN IS DESIGNED ONLY AS A GUIDANCE FOR SAFE HANDLING, USE, PROCESSING, STORAGE, TRANSPORTATION, DISPOSAL AND RELEASE AND IS NOT TO BE CONSIDERED A WARRANTY OR QUALITY SPECIFICATION. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This safety information is not a license to use this material as claimed by any patents of third parties. The user alone must finally determine whether a contemplated use of this material will infringe any such patents, and for obtaining any required licenses.

Prepared by

Not available.