

SECTION 1: Identification

1.1 Product identifier

	Product name	10-800040-00 and 90-600054-00 - RHS-45 Hard Coat
	Product number Brand	10-800040-00 and 90-600054-00 Quantum Innovations
1.2	Other means of identification RHS-45 Hard Coat, 5 Kg	
1.3	Recommended use of the chemical Lacquer coating material.	and restrictions on use

1.4 Supplier's details

Name Address	Quantum Innovations, Inc. 549 E. Vilas Rd. Central Point, OR 97502 United States
Telephone	541-608-7772
Fax	541-608-7774
email	info@Qtmi.net

1.5 Emergency phone number(s)

INFOTRAC (24 hour Emergency Telephone) Call: 1-800-535-5053

SECTION 2: Hazard identification

General hazard statement

Highly flammable liquid and vapor. Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness. May cause damage to organs. Toxic: Danger of very serious irreversible effects through inhalation, in contact with skin, and if swallowed.

2.1 Classification of the substance or mixture

GHS classification in accordance with: (US) OSHA (29 CFR 1910.1200)

- Flammable liquids (chapter 2.6), Cat. 3
- Acute toxicity, oral (chapter 3.1), Cat. 4
- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 2A
- Sensitization, skin (chapter 3.4), Cat. 1
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 2

- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word Warning	
Hazard statement(s)	
H226	Flammable liquid and vapor
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H371	May cause damage to organs
Precautionary statement(s)	
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition
	sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor//if you feel unwell,
P302+P352	IF ON SKIN: Wash with plenty of water/
P304+P340	IF INHALED: Remove person to fresh air and keep 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.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor/
P312	Call a POISON CENTER/doctor/ if you feel unwell.
P330	Rinse mouth.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or a rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P403+P233	Store in a well ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with
	local/regional/national/international regulations

2.3 Other hazards which do not result in classification

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/eye protection/face protection.

Flammable. Harmful by inhalation, in contact with skin and if swallowed. Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed. CLASSIFICATION Xn;R20/21/22, R68/20/21/22. R10

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Impurities and stabilizing additives No data available.

Hazardous components

1. PROPYLENE GLYCOL MONOMETHYL ETHER

Concentration	30 - < 40 %
EC no.	203-539-1
CAS no.	107-98-2
Index no.	603-064-00-3

- Flammable liquids (chapter 2.6), Cat. 3

H226

Flammable liquid and vapor

2. ETHANOL

Concentration	10 - < 20 %
EC no.	200-578-6
CAS no.	64-17-5
Index no.	603-002-00-5

- Flammable liquids (chapter 2.6), Cat. 2

H225

Highly flammable liquid and vapor

3. Methanol

Concentration	5 - < 10 %
EC no.	200-659-6
CAS no.	67-56-1
Index no.	603-001-00-X

- Flammable liquids (chapter 2.6), Cat. 2

- Acute toxicity (chapter 3.1), Cat. 3

- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 1

H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H311	Toxic in contact with skin
H331	Toxic if inhaled
H370	Causes damage to organs

4. Trade Secrets

Concentration	1 - 3 %
Concentration	1 - 3 %

5. Other components below reportable levels

Concentration

30 - 40 %

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled	IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.
In case of skin contact	IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.
In case of eye contact	First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.
If swallowed	DO NOT INDUCE VOMITING. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. Be prepared to transport the victim to a hospital if advised by a physician. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital.

Personal protective equipment for first-aid responders

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

4.2 Most important symptoms/effects, acute and delayed

Symptoms of exposure to this compound may include irritation of the eyes, nose, throat, and mucous membranes [058,346,371,430]. Other symptoms may include headache, nausea, central nervous system depression, and abnormal Romberg behavior [346]. It can cause irritation of the skin; and vomiting [058]. It can also cause central nervous system effects and damage to the liver and kidneys [301]. Prolonged contact with the skin can result in reddening and smarting [371]. Eye contact can result in transient pain to the eyes [430]. High concentrations can cause lacrimation and anesthesia [421]. It can also cause coma [058]. Exposure to experimental animals has resulted in mild to profound central nervous system depression, somnolence, dyspnea, ataxia, minor kidney injury, shallow breathing, decreased blood pressure, auricular arrhythmias, convulsions, respiratory failure, and death [430]. It has also cause anesthesia, mild narcosis, slight growth depres- sion, and slight lung effects in experimental animals [421].

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Alcohol resistant foam. Water spray. Water fog. Carbon dioxide (CO2). Dry chemical powder, sand or earth may be used for small fires only.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Specific hazards arising from the chemical

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.

5.3 Special protective actions for fire-fighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Use standard firefighting procedures and consider the hazards of other involved materials.

Further information

Flammable liquid and vapor.

SECTION 6: Accidental release measures

6.2 Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

6.3 Methods and materials for containment and cleaning up

If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor- tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

Reference to other sections

For personal protection, see section 8. For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to:

mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National

Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

7.2 Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

Specific end use(s) Coating

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Ethyl alcohol (Ethanol) (CAS: 64-17-5) PEL (Inhalation): 1000 ppm (OSHA) OSHA Annotated Table Z-1, www.osha.gov

2. Ethyl alcohol (Ethanol) (CAS: 64-17-5) PEL (Inhalation): 1900 mg/m3 (OSHA) OSHA Annotated Table Z-1, www.osha.gov

3. Ethyl alcohol (Ethanol) (CAS: 64-17-5)

PEL (Inhalation): 1000 ppm (Cal/OSHA) OSHA Annotated Table Z-1, www.osha.gov

4. Ethyl alcohol (Ethanol) (CAS: 64-17-5)

REL (Inhalation): 1000 ppm (NIOSH) OSHA Annotated Table Z-1, www.osha.gov

5. METHYL ALCOHOL (CAS: 67-56-1 EC: 200-659-6) PEL-TWA: 200 ppm (ACGIH)

6. METHYL ALCOHOL (CAS: 67-56-1 EC: 200-659-6) Headache, Nausea, Dizziness, Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption

7. METHYL ALCOHOL (CAS: 67-56-1 EC: 200-659-6) STEL: 250 ppm (ACGIH)

8. METHYL ALCOHOL (CAS: 67-56-1 EC: 200-659-6) PEL-TWA: 200 ppm, 325 mg/m3 (NIOSH)

9. METHYL ALCOHOL (CAS: 67-56-1 EC: 200-659-6)

PEL-TWA: 200 ppm, 260 mg/m3 (OSHA) USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

10. Methyl alcohol (CAS: 67-56-1)

PEL (Inhalation): 200 ppm (OSHA) OSHA Annotated Table Z-1, www.osha.gov

11. Methyl alcohol (CAS: 67-56-1)

PEL (Inhalation): 260 mg/m3 (OSHA) OSHA Annotated Table Z-1, www.osha.gov

12. Methyl alcohol (CAS: 67-56-1) PEL (Inhalation): 200 ppm, (ST) 250 ppm, (C) 1000 ppm (Cal/OSHA) OSHA Annotated Table Z-1, www.osha.gov

13. Methyl alcohol (CAS: 67-56-1) REL (Inhalation): 200 ppm, (ST) 250 ppm (NIOSH) OSHA Annotated Table Z-1, www.osha.gov

8.2 Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. 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. Eye wash facilities and emergency shower must be available when handling this product.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms



Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

*MINIMUM PROTECTIVE CLOTHING: Not available

*RECOMMENDED GLOVE MATERIALS: GlovES Expert System Recommended Gloves For Use With Neat (Undiluted) Chemical: This chemical has not been tested for permeation by Radian Corporation; however, the GlovES expert system was used to extrapolate permeation test information from compounds in the same chemical class and the following recommendation(s) are provided. The GlovES system uses permeation data from literature sources; therefore, extra safety margins should be used with the recommended exposure times. If this chemical comes into contact with your glove, or if a tear, puncture or hole develops, remove them at once. Suggested Glove Type Model Number Thickness Estimated Breakthrough Butyl rubber North B-174 0.61 mm 480 min. Viton North F-091 0.25 mm 360 min.

Body protection

Wear appropriate chemical resistant gloves.

Respiratory protection

*RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH- approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCI, acid gas and SO2) with a dust/mist filter.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.) Odor	Liquid; Clear Organic Solvent
Odor threshold	Not Available
рН	5.5 - 6.5
Melting point/freezing point	Not Available
Initial boiling point and boiling range	Not available
Flash point	78.8° F (26.0° C) Setaflash
Evaporation rate	Not Available
Flammability (solid, gas)	Not Applicable
Upper/lower flammability limits	Not Available
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	Not Available
Solubility(ies)	Not Available
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available
Viscosity	7-10 cPs @ 25c
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 Chemical stability

Material is stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerization does not occur.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

10.5 Incompatible materials

Strong acids. Strong oxidizing agents.

10.6 Hazardous decomposition products

No hazardous decomposition products are known. Fire creates toxic gases/vapors/fumes of carbon monoxide (CO). Carbon Dioxide (CO2)

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

INHALATION

Harmful by inhalation. Harmful: possible risk of irreversible effects through inhalation.

INGESTION

Harmful if swallowed. Harmful: possible risk of irreversible effects if swallowed.

Skin corrosion/irritation

Harmful in contact with skin. Harmful: possible risk of irreversible effects in contact with skin

Serious eye damage/irritation

May cause severe irritation to eyes

Respiratory or skin sensitization

May cause damage to organs by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.

Germ cell mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

STOT-single exposure

May cause damage to organs. May cause drowsiness and dizziness.

Skin. Eyes. Respiratory system, lungs.

STOT-repeated exposure

Skin. Eyes. Respiratory system, lungs.

Aspiration hazard Not an aspiration hazard.

Additional information

HEALTH WARNINGS

INHALATION. Prolonged inhalation of high concentrations may damage respiratory system.

SKIN CONTACT. Acts as a defatting agent on skin. May cause cracking of skin, and eczema. Prolonged or repeated exposure may cause severe irritation.

EYE CONTACT. May cause severe irritation to eyes.

INGESTION. The product causes irritation of mucous membranes and may cause abdominal discomfort if swallowed.

SECTION 12: Ecological information

Toxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow) Ethanol -0.31 METHANOL -0.77

Mobility in soil

No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

Disposal of the product

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Disposal of contaminated packaging

Disposed of product in accordance with state and federal regulations.

Waste treatment

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.

Sewage disposal

Avoid discharge into drains, water courses or onto the ground.

Other disposal recommendations

Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

DOT (US)

PROPER SHIPPING NAME: Resin solution, flammable UN/ID NUMBER: UN1866 HAZARD CLASS: 3 PACKING GROUP: III SUBSIDIARY RISK: None

IMDG

UN Number: 1866 UN Proper Shipping Name: Resin solution, flammable Transport Hazard Class(es): 3 Packing Group: III Marine Pollutant: No EMS: F-E, S-E Special Precautions For User: Read safety instructions, SDS and emergency procedures before handling

IATA

UN Number: 1866 UN Proper Shipping Name: Resin solution, flammable

Transport Hazard Class(es): 3 Packing Group: III Marine Pollutant: No Special Precautions For User: Read safety instructions, SDS and emergency procedures before handling Other information: Cargo aircraft only allowed

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

New Jersey Right To Know Components Common name: PROPYLENE GLYCOL MONOMETHYL ETHER CAS number: 107-98-2

Pennsylvania Right To Know Components Chemical name: 1-Methoxy-2-Propanol CAS number: 107-98-2

New Jersey Right To Know Components Common name: ETHYL ALCOHOL CAS number: 64-17-5

Pennsylvania Right To Know Components Chemical name: Ethanol CAS number: 64-17-5

Massachusetts Right To Know Components Chemical name: Methanol CAS number: 67-56-1

New Jersey Right To Know Components Common name: METHYL ALCOHOL CAS number: 67-56-1

Pennsylvania Right To Know Components

Chemical name: Methanol CAS number: 67-56-1

Massachusetts Right To Know Components

1-Methoxy-2-Propanol (CAS 107-98-2) Ethyl Alcohol (CAS 64-17-5)

Rhode Island Right To Know Components Methyl Alcohol (CAS 67-56-1)

HMIS Rating

10-800040-00 and 90-600054-00 - RHS-45 Hard Coat	
HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	0
PERSONAL PROTECTION	Н

NFPA Rating



SECTION 16: Other information

No additional information available at time of printing.

16.1 Further information/disclaimer

Quantum Innovations, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

16.2 Preparation information

Quantum Innovations