

Section 1: Product Information

Name: GC-20 Glass Cleaner
Description: Silane Solution
Use: Glass cleaner
MSDS number: YHAI-1
Appearance and odor: Colorless, Mild solvent odor
Emergency telephone: 1-800-424-9300 (CHEMTREC)
Product information: 859-879-2853
Effective date: 5/20/2011
Supersedes date: 8/1/2008

Section 2: Hazardous Ingredients

A hazard evaluation of this product has been performed. The components listed below are identified as hazardous chemicals under the criteria of the OSHA hazard communication standard (29 CFR 1910.1200).

<u>Common name / Chemical name</u>	<u>CAS number</u>	<u>Approximate %</u>
Isopropyl alcohol / 2-propanol	67-63-0	60 - 90
Hexane / n-hexane	110-54-3	30 - 40
Gamma-aminopropyltrimethoxysilane / 3-(trimethoxysilyl)-1-propenamine	13822-56-5	1 - 5

Section 3: Emergency and First Aid Procedure
Eye contact:

Flush eyes with water for at least 15 minutes. Lift eyelids frequently. Get prompt medical attention.

Skin contact:

Remove contaminated clothing and shoes. Wash affected area with soap and water. If irritation develops, consult a physician. Wash contaminated clothing separately before reuse.

Inhalation:

Remove to fresh air. If symptoms develop, seek immediate medical attention. If not breathing, give artificial respiration, preferably mouth to mouth.

Ingestion:

Do not induce vomiting. Seek medical attention. Do not give anything by mouth if the person is drowsy, unconscious, or has no gag reflex.

Ingestion creates a high risk of aspiration and subsequent chemical pneumonitis. However, if more than one milliliter per kilogram of body weight of the hydrocarbon was ingested, careful emesis or lavage is recommended because of the toxic effects produced by the hydrocarbon.

Note to physician:

Treatment should be directed at preventing absorption, administering to the symptoms as they occur, and providing supportive therapy.

Section 4: Health Effects Summary

Primary route(s) of exposure: **Eye - yes** **Skin - yes** **Inhalation - yes**

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Airborne exposure limits

Hexane
ACGIH TLV-TWA: 50 ppm 176 mg/m3
OSHA PEL: 50 ppm 180 mg/m3
NIOSH recommends 100 ppm as a 10 hour TWA and 510 ppm as a 15-minute ceiling.

Airborne exposure limits

Gamma-aminopropyltrimethoxysilane
ACGIHTLV-TWA: not established
OSHA PEL: not established

Section 7: Fire Protection Information

Flash point: -13oF, -25oC **Test method:** setaflash closed cup
Explosive limits: LEL (%) - not established UEL (%) - not established
Auto-ignition temperature: not established

Extinguishing media

Small fires: use dry chemical, carbon dioxide, halon, water spray, or foam.
Large fires: use water spray, fog, or alcohol foam.

Special fire fighting procedures:

Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus (SCBA) and full protective clothing.

Unusual fire and explosion hazards:

When exposed to flames or high temperatures encountered during fire conditions, sealed containers may rupture because of the build up of internal pressure. Cool containers with water.
Vapors may be heavier than air and may travel considerable distances from the material handling point. A spark, flame, cigarette, electric motor, static discharge, engine, pilot light, hot surface, or other ignition source can ignite vapors.

Section 8: Reactivity Data

Stable under normal conditions of storage and use: yes

Materials to avoid:

Oxidizing agents.

Hazardous polymerization:

Hazardous polymerization will not occur.

Thermal decomposition products:

If heated to high temperatures, this product may emit the following compounds:

Flammable solvent vapors.
Smoke, soot, & toxic fumes (e.g. carbon dioxide & carbon monoxide).

Section 9: Spill and Leak Procedures

Response to Spills:

Stop discharge, if it can be performed safely, and contain material. If a substantial quantity is spilled, use an absorbent such as fuller's earth, clay, or other appropriate synthetic absorbent. Place contaminated material in a suitable container for disposal. Appropriate safety measures and protective equipment should be used (see section 6).
Do not flush to streams, rivers, or other bodies of water.

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Precautions:

Eliminate all sources of ignition.

If the airborne concentration exceeds established exposure limits (TLV or PEL), or if high airborne concentrations can occur, evacuate employees and ventilate the area.

A supplied air respirator or self-contained breathing apparatus (SCBA) should be used for entry into enclosed spaces, or in areas with inadequate ventilation.

Disposal methods:

If discarded in its original unused form, this product exhibits the characteristics of a RCRA hazardous waste as defined under:

40 CFR 261.21 (i.e. ignitable - D001)

Therefore, it must be managed (stored/ treated/disposed/etc.) at a properly permitted facility, in compliance with all applicable federal, state, and local requirements. Be sure to contact the appropriate government environmental agencies if further guidance is required.

Of the methods of disposal currently available, it is recommended that an alternative be selected according to the waste management hierarchy.

Section 10: Special Precautions

Recommended storage practice and conditions:

Store in cool, dry, well ventilated area. Do not store near heat or ignition sources, or in direct sunlight. Always keep containers tightly closed to avoid contamination.

Special warning:

Hot organic chemical vapors or mists can suddenly and without warning combust when mixed with air. Ignition can occur at typical elevated temperature process conditions. Any proposed use in such processes should be evaluated thoroughly to assure safe operating conditions.

Container use procedures:

Containers should be supported and grounded before opening, dispensing, mixing, pouring, and emptying. Open with no-sparking tools. If the container is warm, open bung slowly to release internal pressure.

Empty container precautions:

This container is hazardous when empty. Do not use heat, sparks, open flames, torches, or cigarettes on or near empty container. Empty containers can retain product residues. Do not reuse empty container for food, clothing, or products for human or animal consumption or where skin contact may occur.

Supplemental section 10 information:

HMIS classification - health: 2; flammability: 3; reactivity: 0.

Section 11: Physical Data

Non-volatile (by weight):%	< 2
pH:	not applicable
Vapor density (air=1):	not established
Solubility in water:	not applicable
Evaporation rate (n-butyl acetate=1):	not established
Vapor pressure (mmHg @25oC):	not established
Specific gravity (water=1);	< 1.0
Approximate boiling point:	not established

Note: The physical data presented above are typical values and should not be construed as a specification.

Section 12: Label and Transportation Information

DOT shipping name: adhesive, containing a flammable liquid
DOT label: flammable liquid
DOT identification No.: UN 1133
Supplemental section 12 information: for Canadian shipments: F117.

Section 13: Regulatory Information

Toxic substance control act (TSCA)
Chemical component(s) in this product are (b) chemical substance inventory listing (40 CFR 710).
SARA title information
Section 313 - toxic chemicals
Pursuant to section 313 of SARA, this product contains one or more toxic chemicals that are present in a concentration in excess of 1 percent of the mixture (0.1 percent, if the listed toxic chemical is a carcinogen).
Hexane
Section 302 - extremely hazardous substances
Pursuant to section 302 of SARA this product does not contain an extremely hazardous substance.
Section 311/312 - hazard categories
Pursuant to section 311/312 of SARA the physical and health hazard categories for this product are identified below:
Fire hazard: yes
Sudden release of pressure hazard: no
Reactivity hazard: no
Immediate (acute) health hazard: yes
Delayed (chronic) health hazard: yes

Section 14:Users Responsibility

A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions - in addition to those described herein - are required. Any health hazard and safety information contained herein should be passed on to your customers or employees, as the case may be.

Disclaimer of liability

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. No representations of warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.

If you have questions with regard to health effects, or other information presented in this document, contact:

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Yokohama Tire Corporation
1500 Indiana Avenue
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State of California Addendum to the Material Safety Data Sheet

Product name: **GC-20 Glass Cleaner**

Effective date: 5/20/2011

The California safe drinking water and toxic enforcement act of 1986, otherwise known as proposition 65, requires that persons potentially exposed to certain substances be made aware of the chronic effects of the substances specified by the state of California.

This product contains no substances known to the state of California to cause cancer, birth defects, or other reproductive harm.

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Commonwealth of Pennsylvania Addendum to the Material Safety Data Sheet

Product name: **GC-20 Glass Cleaner**

Effective date: 5/20/2011

All of the materials in this product that are required by the Commonwealth of Pennsylvania to be identified are listed below. In addition, the Commonwealth of Pennsylvania on their hazardous substance list may have placed some of the materials identified.

<u>Ingredients</u>	<u>CAS Number</u>	<u>Weight %</u>
Isopropyl alcohol / 2-propanol	67-63-0	60 - 90
Hexane / n-hexane	110-54-3	30 - 40
Gamma-aminopropyltrimethoxysilane / 3-(trimethoxysilyl)-1-propenamine	13822-56-5	1 - 5
Non-hazardous trade secret ingredient(s)	Proprietary	0.73

The specific chemical identity of any substance not identified with a chemical abstract service number is being held as a trade secret.