1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-280
K0201A
IPA Clean

Product Use: Cleaning Solvent

MANUFACTURER/DISTRIBUTOR:

Miller-Stephenson Chemical
55 Backus Ave.
Danbury, Conn. 06810 USA
(203) 743-4447

Emergency Phone Number:
(800) 424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
Flammable aerosol: Category 1
Eye Irritation: Category 2A
Specific Target Organ Toxicity (single exposure): Category 3

Label elements:
Signal word
Danger

Pictograms

Hazardous warnings
Highly flammable aerosol.
Causes serious eye irritation.
May cause drowsiness or dizziness

Precautionary Statements
Keep away from heat/sparks/open flames/hot surfaces – No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing fumes/gas/vapor/spray.
Wash skin thoroughly after handling.
Use in a well ventilated area.
Wear protective gloves/eye protection/face protection.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.
Rinse skin with water/shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER or doctor/ physician if you feel unwell.
If eye irritation persists: Get medical advice/ attention.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction
Pressurized container: Do not pierce or burn, even after use.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/container to an approved waste disposal plant.

Other Hazards
May form explosive peroxides.

3. INGREDIENTS

Material (s)	CAS No.	Approximate %
Isopropyl Alcohol	67-63-0	75 - 85
1,1,1,2-Tetrafluoroethane	811-97-2	18 - 22

4. FIRST AID MEASURES

Inhalation: If inhaled, immediately remove to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately

Eye: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

Skin: Wash off with soap and water. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.

Oral: DO NOT INDUCE VOMITING. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to an unconscious person. Get medical attention.

5. FIRE FIGHTING MEASURES

Flammability: This product is flammable.

Test Method: Ignition distance test and Enclosed space ignition test

Autoignition Temperature: 750°F /399°C

Flammable Limits in Air, % by Vol.:
LEL: 2%
UEL: 12%

Suitable Extinguishing Media: Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO2)

Unsuitable extinguishing media: No applicable data available.

Special hazards: Carbon oxides expected to be the primary hazardous combustion product.

Special Fire Fighting Instruction: In the event of fire, wear self-contained breathing apparatus and other protective clothing to prevent contact with the skin and eyes.

Further information: Keep containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel): Use personal protective equipment. Avoid breathing vapors, mist or gas. Evacuate personnel to safe area. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors accumulate in low areas. In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental precautions: If containers rupture, prevent material from entering sewers, waterways, or low areas. Should not be released into the environment.

Spill Cleanup: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into a convenient waste disposal container for disposal according to local regulations.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin, or clothing. Do not inhale vapor or mist. Wash thoroughly after handling. Keep away from heat, sparks, and open flame. Take measures to prevent the buildup of electrostatic charge.

Storage Conditions: Store in a clean, cool and dry area that is well-ventilated. Do not store sources of heat, in direct sunlight or where temperatures exceed 120^{O}F/49^{O}C. Do not pierce or burn, even after use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:	TWA (ACGIH)	TWA (OSHA)
Isopropyl Alcohol	200 ppm , TWA	400 ppm, TWA

Use only with adequate ventilation.

Vapors are heavier than air posing a hazard of asphyxia if they are trapped in enclosed or low places. Mechanical ventilation should be used in these areas.

Eye Protection: Wear safety glasses or coverall chemical splash goggles.

Respiratory Protection: Where there is potential for airborne exposures in excess of applicable limits, wear NIOSH approved respiratory protection.

Skin Protection: Where there is potential for skin contact have available and wear as appropriate impervious gloves. Gloves of nitrile rubber are recommended.

Do not smoke in area. Wash after handling. Do not eat or drink when using the material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N.A.

Percent Volatile by Volume: 100

Density: 0.785 g/cc @ 70°F/20°C

Vapor Pressure: 44 mmHg 77°F/25°C

Vapor Density (Air=1): 2.1

Solubility in H_2O: Soluble in water

pH Information: N.A.

Evaporation Rate (CC14=1): N.A.

Form: Aerosol

Appearance: Clear & Colorless

Color: Colorless

Odor: Alcohol odor

10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal temperatures and storage conditions.

Possibility of hazardous reactions: Vapors may form flammable mixture in air.

Conditions to Avoid: Heat, sparks, and flames. Exposure to elevated temperatures, direct sunlight. Avoid static discharge.

Incompatible Materials: Avoid contact with: Aldehydes. Aluminum, Halogenated organics. Halogens. Strong acids. Strong oxidizers.

Hazardous decomposition products: Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Isopropyl Alcohol

Acute Toxicity
Ingestion: LD50, Rat, 4,710 mg/l
Skin Absorption: LD50, Rabbit, 12,870 mg/kg
Inhalation: LC50, 4 h, Vapor, Rat, 72.6 mg/l
Skin Corrosion/Irritation: No significant irritation in multiple animal species.
Serious Eye Damage/Irritation: Serious eye irritant in Rabbits
Sensitization Skin: Not sensitizing in Guinea pigs
Sensitization Respiratory: Data not available or insufficient for classification
Germ Cell Mutagenicity: In vitro and In vivo - Not Mutagenic
Carcinogenicity: Some positive data exists with inhalation in rats, but the data is not sufficient for classification.
Reproductive and/or Developmental Toxicity: Some positive developmental data exist in rats, but the data are not sufficient for classification.
Repeated Dose Toxicity: In Rats, some positive data exists, on the following organs: bladder and kidney, but not sufficient for classification.
Single Dose Toxicity: In Humans, some positive data exists on the nervous and respiratory systems, but not sufficient for classification. May cause drowsiness or dizziness, if ingested.
Aspiration Hazard: Not an aspiration hazard

12. ECOLOGICAL INFORMATION

Aquatic Toxicity:

Isopropyl Alcohol:

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Fish Acute & Prolonged Toxicity
LC50, fathead minnow (Pimephales promelas), flow-through, 96 h: 9,640 - 10,400 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, 48 h, immobilization: 7,550 - 13,299 mg/l
Aquatic Plant Toxicity
EC50, alga Scenedesmus sp., Growth rate inhibition, 72 h: > 1,000 mg/l
Toxicity to Micro-organisms
EC50; activated sludge, respiration inhibition: > 1,000 mg/l

13. DISPOSAL CONSIDERATIONS

Empty containers must not be burned because of the explosive hazard. Recover and reclaim or recycle, if practical. Comply with Federal, State/Provincial and Local regulations. Remove to a permitted waste disposal facility.

14. TRANSPORT INFORMATION

U.S. DOT
Proper Shipping Name: Consumer Commodity
Hazard Class: ORM-D
Identification No. None
Packing Group: None

IATA
Proper Shipping Name: Aerosols, Flammable
Hazard Class: 2.1
Identification No. UN1950
Packing Group: None

IMDG
Proper Shipping Name: Aerosols, Flammable
Hazard Class: 2.1
Identification No. UN1950
Packing Group: None

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA: All ingredients are listed in TSCA inventory.

SARA 311/312 Hazards
Fire Hazard, Acute Health Hazard, Chronic Health Hazard

16. OTHER INFORMATION

NPCA-HMIS Ratings:

Health	- 1
Flammability	- 3
Reactivity	- 0

Personal Protective rating to be supplied by user depending on the conditions.

FOR INDUSTRIAL USE ONLY

REVISION DATE: SEPTEMBER 2015