



SAFETY DATA SHEET

ISOPROPYL ALCOHOL

**ISOPROPYL ALCOHOL 70% & 99%
A063, A066, A522**

SECTION 1 – IDENTIFICATION

Product name : Isopropyl Alcohol 70% & 99%
Application : Use as a rubbing alcohol and first aid application.
Product code No : A063, A066, A522

Supplier/Manufacturer : Laboratoire Atlas Inc.
9600, boul. des Sciences,
Montréal, Québec, Canada, H1J 3B6

Tel : (514) 254-7188
Fax : (514) 254-3006

Emergency Telephone Number
Antipoison Centre (24hr) : 1-800-463-5060
Canutec (24hr) : 1-613 996-6666

SECTION 2 – HAZARD IDENTIFICATION

GHS Classification

Flammable liquids : Category 2
Eye irritation : Category 2A
Specific target organ toxicity : Category 3 (Narcotic effects.)
- single exposure (Inhalation, Oral)

GHS Label element

Hazard pictograms



Signal word : DANGER
Hazard statements : **PHYSICAL HAZARDS:**
H225 Highly flammable liquid and vapour.
HEALTH HAZARDS:
Causes serious eye irritation.
May cause drowsiness or dizziness.
ENVIRONMENTAL HAZARDS:
Not classified as an environmental hazard under GHS criteria.

Precautionary statements : **Prevention:**
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.
Avoid breathing mist or vapours.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
In case of fire: Use appropriate media for extinction.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/ attention.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/ physician if you feel unwell.
Storage:
Store in a well-ventilated place. Keep cool.
Store locked up.
Disposal:
Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other hazards which do not result in classification

Vapours are heavier than air. Vapours may travel across the ground and reach remote ignition sources causing a flashback fire danger. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour



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mixtures can occur. Slightly irritating to respiratory system. The classification of this material is based on OSHA HCS 2012 criteria

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance
Synonyms : Dimethyl carbinol-USP, IPA-USP, Isopropanol-USP, Propa-nol-USP, sec-, Propyl alcohol-USP, sec-

Hazardous components

Chemical Name	Synonyms	CAS-No	Concentration (%)
Isopropyl alcohol	propan-2-ol	67-63-0	100 <=

SECTION 4 – FIRST AID MEASURES

General advice : In general no treatment is necessary, however, obtain medical advice.

If inhaled : Remove to fresh air. If rapid recovery does not occur, trans-
port to nearest medical facility for additional treatment.

In case of skin contact : Remove contaminated clothing. Flush exposed area with wa-
ter and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

In case of eye contact : Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the near-
est medical facility for additional treatment.

If swallowed : If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

Most important symptoms and effects, both acute and delayed:
If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.

Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

Immediate medical attention, special treatment:
Potential for chemical pneumonitis. Call a doctor or poison control center for guidance.

SECTION 5 - FIRE-FIGHTING MEASURES

Suitable extinguishing media : Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media : None

Specific hazards during fire-fighting : The vapour is heavier than air, spreads along the ground and distant ignition is possible. Carbon monoxide may be evolved if incomplete combustion occurs.

Specific extinguishing methods : Standard procedure for chemical fires.

Further information : Clear fire area of all non-emergency personnel. Keep adjacent containers cool by spraying with water.

Special protective equipment for firefighters:
Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).



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SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Observe the relevant local and international regulations. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Vapour may form an explosive mixture with air.

Avoid contact with skin, eyes and clothing. Isolate hazard area and deny entry to unnecessary or unprotected personnel. Stay upwind and keep out of low areas.

Environmental precautions

: Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Ventilate contaminated area thoroughly. Monitor area with combustible gas indicator.

Methods and materials for containment and cleaning up:

For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

SECTION 7 – HANDLING AND STORAGE

Technical measures:

: Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Ensure that all local regulations regarding handling and storage facilities are followed.

Precautions for safe handling

: Avoid contact with skin, eyes and clothing. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.

Avoidance of contact

: Strong oxidising agents.

Advice on protection against fire and explosion:

Bulk storage tanks should be diked (bunded). Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk. The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Do NOT use compressed air for filling, discharging, or handling operations.

Product Transfer

: Refer to guidance under Handling section.

Storage

Conditions for safe storage, including any incompatibilities:

The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Packaging material

: Suitable material: For containers, or container linings use mild steel, stainless steel. Unsuitable material: Natural, butyl, neoprene or nitrile rubbers.

Container Advice

: Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

Specific use(s)

: Not applicable

Ensure that all local regulations regarding handling and storage facilities are followed. See additional references that provide safe handling practices: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity). CENELEC CLC/TR 50404 (Electrostatics – Code of practice for the avoidance of hazards due to static electricity).

**SAFETY DATA SHEET****ISOPROPYL ALCOHOL****ISOPROPYL ALCOHOL 70% & 99%
A063, A066, A522****SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value type (From of exposure)	Control parameters / Permissible concentration	Basis
Isopropyl alcohol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m3	OSHA Z-1

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling Time	Permissible concentration	Basis
Isopropyl alcohol	67-63-0	Acetone	Urine	End of shift at end of work-week	40 mg/l	ACGIH BEI

Monitoring Methods

: Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory. Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods <http://www.cdc.gov/niosh/> Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods <http://www.osha.gov/> Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances <http://www.hse.gov.uk/> Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany <http://www.dguv.de/inhalt/index.jsp> L'Institut National de Recherche et de Sécurité, (INRS), France <http://www.inrs.fr/accueil/>

Engineering measures

: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed systems as far as possible. Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Firewater monitors and deluge systems are recommended. Eye washes and showers for emergency use. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information

: Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping. Define procedures for safe handling and maintenance of controls. Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or subsequent recycle.

Personal protective equipment**Respiratory protection**

: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. If air-filtering respirators are suitable for conditions of use: Select a filter suitable for organic gases and vapours [boiling point >65 °C (149 °F)]. Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Hand protection Remarks

: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Butyl rubber. Nitrile rubber. Incidental contact/Splash protection: PVC or neoprene rubber gloves For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be re-placed. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.



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- Eye protection : Wear goggles for use against liquids and gas. Wear full face shield if splashes are likely to occur.
- Skin and body protection : Wear antistatic and flame retardant clothing if a local risk assessment deems it so. Skin protection is not required under normal conditions of use. For prolonged or repeated exposures use impervious clothing over parts of the body subject to exposure. If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant Standard, and provide employee skin care programmes.
- Protective measures : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
- Hygiene measures : Wash hands before eating, drinking, smoking and using the toilet. Launder contaminated clothing before re-use.

Environmental exposure controls

- General advice : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation. Information on accidental release measures are to be found in section 6.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Liquid.
- Colour : Colorless or red tinted
- Odour : Characteristic
- Odour Threshold : Data not available
- pH : Not applicable
- Melting point/freezing point : Data not available
- Boiling point/boiling range : 82 - 83 °C / 180 - 181 °F
- Flash point : 12 °C / 54 °F Method: Abel
- Evaporation rate : 1.5 Method: ASTM D 3539, nBuAc=1
- Flammability (solid, gas) : Not applicable
- Upper explosion limit : upper flammability limit 12 %(V)
- Lower explosion limit : lower flammability limit 2 %(V)
- Vapour pressure : 4,100 Pa (20 °C / 68 °F)
- Relative vapour density : 2 (20 °C / 68 °F)
- Relative density : 0.78 - 0.79 (20 °C / 68 °F)
- Density : 785 - 786 kg/m³ (20 °C / 68 °F) Method: ASTM D4052
- Solubility(ies) Water solubility : Completely miscible.
- Partition coefficient: n-octanol/water : Data not available
- Auto-ignition temperature : 425 °C / 797 °F Method: ASTM D-2155
- Decomposition temperature : Data not available
- Viscosity, dynamic : Data not available
- Viscosity, kinematic : Data not available
- Explosive properties : Not applicable
- Oxidizing properties : Data not available
- Surface tension: : Data not available
- Conductivity : Electrical conductivity: > 10 000 pS/m, A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid, This material is not expected to be a static accumulator.
- Molecular weight : Data not available

SECTION 10 – STABILITY & REACTIVITY

- Reactivity : The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
- Chemical stability : No hazardous reaction is expected when handled and stored according to provisions
- Possibility of hazardous reactions : Reacts with strong oxidising agents.
- Conditions to avoid : Avoid heat, sparks, open flames and other ignition sources. Prevent vapour accumulation. In certain circumstances product can ignite due to static electricity.
- Incompatible materials : Strong oxidising agents.
- Hazardous decomposition products : Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.



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SECTION 11 - TOXICOLOGICAL INFORMATION

Basis for assessment: Information given is based on product testing.
Information on likely routes of exposure: Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

Acute toxicity : Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg: Low toxicity:
 Acute inhalation toxicity: Low toxicity by inhalation.
 Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg: Low toxicity:

Skin corrosion/irritation : Not irritating to skin
Serious eye damage/eye irritation : Causes serious eye irritation.
Respiratory or skin sensitization : Not expected to be a sensitiser.
Germ cell mutagenicity : Not mutagenic.
Carcinogenicity : Not a carcinogen.
IARC : No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH : No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
OSHA : No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP : No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
Reproductive toxicity : Does not impair fertility, Not a developmental toxicant.
STOT - single exposure : May cause drowsiness and dizziness.
STOT - repeated exposure : Kidney: caused kidney effects in male rats which are not considered relevant to humans
Aspiration toxicity : Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
Further information : Exposure may enhance the toxicity of other materials., Classifications by other authorities under varying regulatory frameworks may exist.

SECTION 12 - ECOLOGICAL INFORMATION

Basis for assessment : Information given is based on product testing.

Ecotoxicity
 Toxicity to fish (Acute toxicity) : Practically non toxic: LL/EL/IL50 > 100 mg/l

Toxicity to daphnia and other aquatic invertebrates (Acute toxicity):
 Practically non toxic: LL/EL/IL50 > 100 mg/l

Toxicity to algae (Acute toxicity) : Practically non toxic: LL/EL/IL50 > 100 mg/l

Toxicity to fish (Chronic toxicity) : Data not available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
 Data not available

Toxicity to bacteria (Acute toxicity) : Practically non toxic: LL/EL/IL50 > 100 mg/l

Persistence and degradability
 Biodegradability : Readily biodegradable. Oxidises rapidly by photo-chemical reactions in air.

Bioaccumulative potential
 Bioaccumulation : Not expected to bioaccumulate significantly.

Mobility in soil
 Mobility : Dissolves in water. If the product enters soil, one or more constituents will or may be mobile and may contaminate groundwater.

Other adverse effects : no data available

Additional ecological information : Not expected to have ozone depletion potential.



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SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal methods

- Waste from residues : Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water.
- Contaminated packaging : Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not, puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer.
- Local legislation : Local regulations may be more stringent than regional or national requirements and must be complied with. Disposal should be in accordance with applicable regional, national, and local laws and regulations. Comply with any local recovery or waste disposal regulations.

SECTION 14 - TRANSPORT INFORMATION

National Regulations

US Department of Transportation Classification (49 CFR Parts 171-180)

- UN/ID/NA number : UN 1219
- Proper shipping name : ISOPROPANOL
- Class : 3
- Packing group : II
- Labels : 3
- ERG Code : 129
- Marine pollutant : no

International Regulation

IATA-DGR

- UN/ID No. : UN 1219
- Proper shipping name : ISOPROPANOL
- Class : 3
- Packing group : II
- Labels : 3

IMDG-Code

- UN number : UN 1219
- Proper shipping name : ISOPROPANOL
- Class : 3
- Packing group : II
- Labels : 3
- Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Pollution category : Z
- Ship type : 2
- Product name : Isopropyl alcohol
- Special precautions : Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

- Special precautions for user** : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

SECTION 15 - REGULATORY INFORMATION

- OSHA Hazards** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

EPCRA - Emergency Planning and Community Right-to-Know Act

- CERCLA Reportable Quantity** : This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

- : This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards

- : Fire Hazard



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Acute Health Hazard

- SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
- SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:
Isopropyl alcohol 67-63-0 100 %
- Clean Water Act** : This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
- Pennsylvania Right To Know** : Isopropyl alcohol 67-63-0
- New Jersey Right To Know** : Isopropyl alcohol 67-63-0
- California Prop 65** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
- Other regulations** : The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

SECTION 16 - OTHER INFORMATION

Further information

NFPA Rating (Health, Fire, Reactivity) : 1, 3, 0

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

Sources of key data used to compile the Safety Data Sheet : The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).

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Prepared by : Manufacturer's Technical Services

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