

1. Identification

Material name	RER 600
Issue date	17-June-2014
Revision date	04-February-2019
Supersedes date	01-December-2014
Other means of identification	
Spec ID	100000000119
Synonyms	1-Methoxy-2-propanol acetate; Propylene glycol monomethyl ether acetate (PGMEA)
Recommended use	Solvent for use in the semiconductor industry: Industrial use in coatings; Industrial use in cleaning agents
Recommended restrictions	None known.
Supplier information	
	FUJIFILM Electronic Materials U.S.A., Inc. 80 Circuit Drive North Kingstown RI 02852 Transportation Emergency: FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC: 1-800-424-9300 Medical Emergency (24HR): FOR ANY HEALTH & MEDICAL EMERGENCY, 24 HOURS /7 DAYS CALL: 1-800-365-8951 Non-emergency Telephone: FOR ALL SDS REQUESTS & QUESTIONS, CALL CUSTOMER SERVICE: 1-800-553-6546
SDS file	11066_US_EN_V3.0
Replaces file	11066_US_EN_V2.0

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Reproductive toxicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Danger
Hazard statement	Flammable liquid and vapor. May damage fertility or the unborn child. May cause drowsiness or dizziness.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing mist/vapors/spray. Use only outdoors or in a well-ventilated area.
Response	If exposed or concerned: Get medical advice/attention. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.
Storage	Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Substance

Chemical name	Common name and synonyms	CAS number	%
2-Methoxy-1-methylethyl acetate (1-Methoxy-2-propanol acetate)		108-65-6	99.5 - 100

Impurities

Chemical name	CAS number	%
2-Methoxypropanol acetate	70657-70-4	< 0.3

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Move injured person into fresh air and keep person calm under observation. Get medical attention if any discomfort continues.

Skin contact Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. If irritation occurs, get medical assistance.

Eye contact Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth thoroughly with water and give large amounts of milk or water, if person is conscious. Only induce vomiting at the instruction of medical personnel. Get medical attention if any discomfort continues.

Most important symptoms/effects, acute and delayed Inhalation: Vapors may cause drowsiness and dizziness. Eye contact: May cause redness and pain. Skin contact: Defats the skin. Ingestion: Diarrhea. Abdominal pain. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed Treat symptomatically.

General information 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.

5. Fire-fighting measures

Suitable extinguishing media The product is flammable, and heating may generate vapors which may form explosive vapor/air mixtures. Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media None.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed. Solvent vapors may form explosive mixtures with air.

Special protective equipment and precautions for firefighters Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Use standard firefighting procedures and consider the hazards of other involved materials. Containers close to fire should be removed or cooled with water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate the area. Avoid inhalation of vapors/spray and contact with skin and eyes. Wear suitable protective clothing. See Section 8 of the SDS for Personal Protective Equipment.

Methods and materials for containment and cleaning up Remove sources of ignition. Absorb spillage with non-combustible, absorbent material. For waste disposal, see Section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground unless authorized by permit.

7. Handling and storage

Precautions for safe handling Local exhaust is recommended. Pregnant women should not work with the product, if there is the least risk of exposure. Avoid inhalation of vapors and spray mist and contact with skin and eyes. Wear protective gloves and appropriate clothing to prevent skin contact. Risk of contact: Wear approved safety goggles. The product is flammable, and heating may generate vapors which may form explosive vapor/air mixtures. Do not smoke and do not spray near an open flame or other sources of ignition. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Vapors may be ignited by a spark, a hot surface or an ember. Take precautionary measures against static discharges. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Follow rules for flammable liquids. Keep away from heat, sparks and open flame. Do not store near heat sources or expose to high temperatures. Store in closed original container in a dry place. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
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2-Methoxy-1-methylethyl acetate (1-Methoxy-2-propanol acetate) (CAS 108-65-6)	TWA	50 ppm
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Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

2-Methoxy-1-methylethyl acetate (1-Methoxy-2-propanol acetate) (CAS 108-65-6) Can be absorbed through the skin.

Appropriate engineering controls

Use explosion-proof equipment. Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors. Provide easy access to water supply and eye wash facilities.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear approved safety goggles.

Skin protection

Hand protection Wear protective gloves impervious to the chemicals in use.

Other Also wear appropriate clothing to prevent any possibility of skin contact. Suitable items can be recommended by the protective equipment supplier or by a qualified industrial hygienist.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 1910.134. Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use positive pressure, air-supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Observe any medical surveillance requirements.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Colorless.

Odor Sweet, Mild solvent.

Odor threshold No data available.

pH Not applicable.

Melting point/freezing point No data available.

Initial boiling point and boiling range 302 °F (150 °C)

Flash point 116.6 °F (47.0 °C) Setaflash Closed Cup

Evaporation rate 0.3 (n-Butyl acetate = 1)

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 1.3

Flammability limit - upper (%) 10

Vapor pressure 3.7 mm Hg (20°C)

Vapor density 4.6 (Air = 1)

Relative density	0.966
Solubility(ies)	
Solubility (water)	18.5 % (20°C)
Partition coefficient (n-octanol/water)	3.6/0.56
Auto-ignition temperature	669.2 °F (354 °C)
Decomposition temperature	No data available.
Viscosity	1.07 mm ² /s (77°F)
Other information	
Density	0.996 g/cc
Molecular weight	132
Percent volatile	100 %

10. Stability and reactivity

Chemical stability	Stable under normal temperature conditions.
Possibility of hazardous reactions	Will not occur.
Conditions to avoid	Heat, sparks, flames.
Incompatible materials	Strong oxidizing agents. Strong acids.
Hazardous decomposition products	At elevated temperatures: Carbon dioxide. Carbon monoxide.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Vapors may irritate throat and respiratory system and cause coughing.
Skin contact	May be absorbed through the skin.
Eye contact	May cause eye irritation.
Ingestion	May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics
 Inhalation: Vapors may cause drowsiness and dizziness. Eye contact: May cause redness and pain. Skin contact: Defats the skin.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
2-Methoxy-1-methylethyl acetate (1-Methoxy-2-propanol acetate) (CAS 108-65-6)		
Acute		
Dermal		
LD0	Rabbit	> 5000 mg/kg, 24 hours
LD50	Rat	> 2000 mg/kg, 24 Hours
Inhalation		
<i>mist/aerosol</i>		
LC0	Rat	8.1 mg/l, 4 hours
Oral		
LD50	Rat	6190 mg/kg

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation May cause eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Due to lack of data the classification is not possible.
Skin sensitization	Based on available data, the classification criteria are not met.

Germ cell mutagenicity Due to lack of data the classification is not possible.

Carcinogenicity Due to lack of data the classification is not possible.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Reproductive toxicity	2-Methoxypropanol acetate has been shown to cause effects on the unborn fetus in animals.
Specific target organ toxicity - single exposure	May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	Organic solvents may be absorbed into the body by inhalation and cause permanent damage to the nervous system, including the brain.

12. Ecological information

Ecotoxicity 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.

Components	Species	Test Results
2-Methoxy-1-methylethyl acetate (1-Methoxy-2-propanol acetate) (CAS 108-65-6)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Daphnia magna > 500 mg/l, 48 hours
Fish	LC50	Oncorhynchus mykiss >= 100 mg/l, 96 hours
	NOEC	Oncorhynchus mykiss 100 mg/l, 96 hours
<i>Chronic</i>		
Crustacea	NOEC	Daphnia magna >= 100 mg/l, 21 days
Fish	NOEC	Oryzias latipes 47.5 mg/l, 14 days

Persistence and degradability	The product is readily biodegradable.
Bioaccumulative potential	Potential to bioaccumulate is low.
Mobility in soil	No data available.
Mobility in general	This organic solvent will evaporate easily from all surfaces.
Other adverse effects	The product is a volatile organic compound which has a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
Hazardous waste code	D001: Waste Flammable material with a flash point <140 °F
Waste from residues / unused products	Dispose of waste and residues in accordance with local authority requirements.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT	
UN number	UN3272
UN proper shipping name	Esters, n.o.s. (1-methoxy-2-propanol acetate)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	III
Environmental hazards	
Marine pollutant	No
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. This material can be reclassified as a combustible liquid and is considered not regulated by ground transport when packaged in non-bulk packaging (<119 G). This exception is found in 49 CFR 173.150(f).
Special provisions	B1, IB3, T4, TP1, TP29
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

UN number	UN3272
UN proper shipping name	Esters, n.o.s. (1-Methoxy-2-propanol acetate)

Transport hazard class(es)

Class 3
Subsidiary risk -
Label(s) Flamm. liquid
Packing group III
Environmental hazards No
ERG Code 3L

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN3272
UN proper shipping name Esters, n.o.s. (1-Methoxy-2-propanol acetate)

Transport hazard class(es)

Class 3
Subsidiary risk -
Packing group III
Environmental hazards

Marine pollutant No

EmS F-E, S-D

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This product is a liquid and when transported in bulk is covered under MARPOL 73/78 Annex II. This product is listed in the IBC Code.
Ship type: 3
Pollution category: Z

15. Regulatory information**US federal regulations**

This product is hazardous according to OSHA 29 CFR 1910.1200.
TSCA Section 4(a) Final Test Rules & Testing Consent Orders: Not regulated.
TSCA Section 5(e) PMN-Substance Consent Orders: Not regulated.
SARA 311/312 Hazard categories: see Section 2 of the SDS.

Drug Enforcement Administration (DEA). List 1(i), Precursor Chemicals (21 CFR 1310.02(a) and 1310.04(f)(1))
Not listed.

TSCA Section 5(a)(2) Final Significant New Use Rules (SNURs)(40CFR 721, Subpt. E)
Not regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

None

Drug Enforcement Administration (DEA) (21 CFR 1308.11-15) Not controlled

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

All ingredients are TSCA compliant.

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

State regulations**US. Massachusetts RTK - Substance List**

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

16. Other information, including date of preparation or last revision

Further information HMIS® is a registered trade and service mark of the ACA.
G - Safety Glasses, Gloves, Vapor Respirator

HMIS® ratings Health: 1*
Flammability: 2
Physical hazard: 0
Personal protection: G

NFPA ratings Health: 1
Flammability: 2
Instability: 0

List of abbreviations LD0: Lethal Concentration, 0%.
LD50: Lethal Dose 50%.
LC0: Lethal Concentration, 0%.
LC50: Lethal Concentration 50%.
EC50: Effective Concentration 50%.
NOEC: No observed effect concentration.

Disclaimer THIS SAFETY DATA SHEET (SDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS SDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. FUJIFILM ELECTRONIC MATERIALS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS SDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT FUJIFILM ELECTRONIC MATERIALS AT THE PHONE NUMBER 1-800-553-6546 (CUSTOMER SERVICE) TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT.

This SDS contains revisions in the following section(s): 1, 4, 7, 11, 12, 14, 15, 16.

SDS file 11066_US_EN_V3.0
Replaces file 11066_US_EN_V2.0