

SAFETY DATA SHEET

Multisolve G

SECTION 1: Identification of the substance/mixture and of the company/undertaking1.1. Product identifier

Product name	Multisolve G
Chemical name	2-Methoxy-1-methylethyl acetate
Product number	ME002
REACH registration number	01-2119475791-29-xxxx
CAS number	108-65-6
EU index number	607-195-00-7
EC number	203-603-9

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Manufacture of substance Process solvent. Formulation and (re)packing of substances and mixtures Uses in coatings Use in cleaning agents Agrochemical uses Use in printing inks.
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1.3. Details of the supplier of the safety data sheet

Supplier	Grosvenor Electronic Supplies (UK) Priory Tec. Park Saxon Way, Hessle East Yorkshire HU13 9PB, UK +44 (0)1482 627327 (General Enquiries) +44 (0)1482 627328 (Fax)
Contact person	sales@grosvenor-group.com

1.4. Emergency telephone number

Emergency telephone	0207 405 5375 (National Chemical Emergency Centre) 0870 190 6777 (National Chemical Emergency Centre) +44 (0)1270 502891
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SECTION 2: Hazards identification2.1. Classification of the substance or mixtureClassification (EC 1272/2008)

Physical hazards	Flam. Liq. 3 - H226
Health hazards	Not Classified
Environmental hazards	Not Classified

2.2. Label elements

EC number	203-603-9
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Pictogram



Signal word	Warning
Hazard statements	H226 Flammable liquid and vapour.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P240 Ground/ bond container and receiving equipment. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish. P403+P235 Store in a well-ventilated place. Keep cool.

2.3. Other hazards

No further information given.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

2-METHOXY-1-METHYLETHYL ACETATE	60-100%
CAS number: 108-65-6	EC number: 203-603-9
	REACH registration number: 01-2119475791-29-xxxx
Classification Flam. Liq. 3 - H226	
2-METHOXYPROPYL ACETATE	<1%
CAS number: 70657-70-4	EC number: 274-724-2
Classification Flam. Liq. 3 - H226 Repr. 1B - H360D STOT SE 3 - H335	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments 2-Methoxypropylacetate is present below the levels which affect the classification.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Never give anything by mouth to an unconscious person.
Inhalation	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water. DO NOT induce vomiting. Get medical attention immediately.

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Skin contact Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if any discomfort continues.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

General information No additional symptoms or effects are anticipated.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog. Water spray, fog or mist.

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

5.2. Special hazards arising from the substance or mixture

Specific hazards The product is flammable. Heating may generate flammable vapours. Fire creates: Toxic gases/vapours/fumes of: Carbon monoxide (CO). Carbon dioxide (CO₂). Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

Hazardous combustion products Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Keep up-wind to avoid fumes. Fight fire from safe distance or protected location. Move containers from fire area if it can be done without risk. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Cool containers exposed to flames with water until well after the fire is out. Control run-off water by containing and keeping it out of sewers and watercourses. Do not use water jet as an extinguisher, as this will spread the fire. Water spray may be used to flush spills away from exposures and dilute spills to non-flammable mixtures.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. Ensure suitable respiratory protection is worn during removal of spillages in confined areas. Use suitable respiratory protection if ventilation is inadequate. Take precautionary measures against static discharges. No smoking, sparks, flames or other sources of ignition near spillage. Do not breathe vapour. Avoid contact with eyes. Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground. Avoid or minimise the creation of any environmental contamination.

6.3. Methods and material for containment and cleaning up

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Methods for cleaning up If leakage cannot be stopped, evacuate area. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Wash thoroughly after dealing with a spillage. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb spillage with non-combustible, absorbent material. Cover large spillages with alcohol-resistant foam. Contain and absorb spillage with sand, earth or other non-combustible material. Avoid the spillage or runoff entering drains, sewers or watercourses. Inform authorities if large amounts are involved. Spillage may be stored as chemical waste in approved area.

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Keep away from heat, sparks and open flame. Eliminate all sources of ignition. Static electricity and formation of sparks must be prevented. Storage tanks and other containers must be earthed. Protect electric equipment against sparking in case of risk of explosion. Wear suitable protective equipment for prolonged exposure and/or high concentrations of vapours, spray or mist. Do not eat, drink or smoke when using the product. Container must be kept tightly closed when not in use.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from heat, sparks and open flame. Keep container tightly closed. Earth container and transfer equipment to eliminate sparks from static electricity. Keep only in the original container. Suitable container materials: Mild steel. Stainless steel. Phenolic lined steel drums. Unsuitable container materials: Aluminium. Galvanised containers. copper

Storage class Flammable liquid storage.

7.3. Specific end use(s)

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

2-METHOXY-1-METHYLETHYL ACETATE

Long-term exposure limit (8-hour TWA): WEL 50 ppm 274 mg/m³

Short-term exposure limit (15-minute): WEL 100 ppm 548 mg/m³

Sk

WEL = Workplace Exposure Limit

Sk = Can be absorbed through the skin.

DNEL Industry - Dermal; Long term : 153.5 mg/kg/day
 Industry - Inhalation; Long term : 275 mg/m³
 Consumer - Inhalation; Long term : 33 mg/m³
 Consumer - Dermal; Long term : 54.8 mg/kg/day
 Consumer - Oral; Long term : 1.67 mg/kg/day

PNEC - Fresh water; 0.635 mg/l
 - Marine water; 0.0635 mg/l
 - ; Intermittent releases 6.35 mg/l
 - STP; 100 mg/l
 - Sediment; Freshwater 3.29 mg/kg
 - Sediment; Marine 0.329 mg/kg
 - Soil; 0.29 mg/kg

8.2. Exposure controls

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Protective equipment



Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients. Use explosion-proof general and local exhaust ventilation.
Eye/face protection	Wear chemical splash goggles. Manufactured/Tested in accordance with EN 166. Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Manufactured/tested in accordance with EN 374. It should be noted that liquid may penetrate the gloves. Frequent changes are recommended. Wear protective gloves made of the following material: Butyl rubber. Laminate of polyethylene and ethylene vinyl alcohol (PE/EVOH). Viton rubber (fluoro rubber). Rubber (natural, latex). Polyvinyl chloride (PVC). Nitrile rubber.
Other skin and body protection	Use barrier creams to prevent skin contact. Provide eyewash station and safety shower. Wear appropriate clothing to prevent repeated or prolonged skin contact.
Hygiene measures	Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station and safety shower. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes wet or contaminated. Eating, smoking and water fountains prohibited in immediate work area. Do not smoke in work area.
Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn. In confined or poorly-ventilated spaces, a supplied-air respirator must be worn. Check that the respirator fits tightly and the filter is changed regularly.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Colourless.
Odour	Ether.
Initial boiling point and range	145.8°C @ 760 mm Hg
Flash point	45.5°C CC (Closed cup).
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 1.5 Upper flammable/explosive limit: 7.0
Vapour pressure	355 Pa @ °C
Vapour density	4.6
Relative density	0.967 @ 20°C
Solubility(ies)	19.8 @ °C Miscible with water. Soluble in the following materials: Organic solvents.
Partition coefficient	: 1.2
Auto-ignition temperature	333°C
Viscosity	1.1 mPa s @ 25°C

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Explosive properties Not explosive.

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards under conditions of normal use.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition. Decomposes on heating Take precautionary measures against static discharges.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Hazardous decomposition products None at ambient temperatures. Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Decomposition products depend upon temperature, air supply and the presence of other materials.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects Low toxicity if swallowed. Swallowing larger amounts, may cause injury.

Acute toxicity - oral

Acute toxicity oral (LD₅₀
mg/kg) 5,000.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀
mg/kg) 5,000.0

Species Rabbit

Acute toxicity - inhalation

Species Rat

Skin corrosion/irritation

Animal data Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Slightly irritating. May cause slight corneal injury.

Respiratory sensitisation

Respiratory sensitisation Toxicological studies are not yet available.

Skin sensitisation

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Skin sensitisation	Not sensitising.
<u>Aspiration hazard</u>	
Aspiration hazard	Based on physical properties, not likely to be an aspiration hazard.
General information	Prolonged and repeated contact with solvents over a long period may lead to permanent health problems. Extensive use of the product in areas with inadequate ventilation may result in the accumulation of hazardous vapour concentrations.
Inhalation	The product contains organic solvents. Overexposure may depress the central nervous system, causing dizziness and intoxication.
Ingestion	May cause discomfort if swallowed.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Eye contact	Irritation of eyes and mucous membranes.
Route of entry	Ingestion. Inhalation
Target organs	Brain Respiratory system, lungs Mucous membranes
Medical symptoms	Skin irritation. Irritation of eyes and mucous membranes. Gas or vapour in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Headache. Fatigue. Nausea, vomiting.
Medical considerations	Skin disorders and allergies. Convulsions. Central nervous system depression. Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

SECTION 12: Ecological Information

Ecotoxicity The product is not expected to be hazardous to the environment.

12.1. Toxicity

Acute toxicity - fish LC₅₀, 96 hours: 100 mg/l, *Onchorhynchus mykiss* (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 408-500 mg/l, *Daphnia magna*

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product has low potential for bioaccumulation.

Partition coefficient : 1.2

12.4. Mobility in soil

Mobility Potential for mobility in soil is very high.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not dangerous for the ozone layer.

SECTION 13: Disposal considerations

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13.1. Waste treatment methods

General information	Do not puncture or incinerate, even when empty. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Waste is classified as hazardous waste.
Disposal methods	Dispose of waste via a licensed waste disposal contractor. Confirm disposal procedures with environmental engineer and local regulations. Do not allow runoff to sewer, waterway or ground.
Waste class	Hazardous Waste The product contains a substance which is hazardous to aquatic organisms and which may cause long term adverse effects in the aquatic environment. See section 12.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	3272
UN No. (IMDG)	3272
UN No. (ICAO)	3272
UN No. (ADN)	3272

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ESTERS, N.O.S.
Proper shipping name (IMDG)	ESTERS, N.O.S.
Proper shipping name (ICAO)	ESTERS, N.O.S.
Proper shipping name (ADN)	ESTERS, N.O.S.

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

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Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-E, S-D
ADR transport category	3
Emergency Action Code	•3Y
Hazard Identification Number (ADR/RID)	30
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU legislation	Regulation (EC) No 1272/2008 CLP. Regulation (EC) No 1907/2006 REACH.
Guidance	Workplace Exposure Limits EH40.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS
Present.

SECTION 16: Other information

General information	Only trained personnel should use this material. Since empty containers retain product residue, follow label warnings, even after container is emptied. For further Health and Safety information contact: Health and Safety Officer. Labels should not be removed from containers until they have been cleaned and no product remains within.
Revision comments	Updated exposure scenario.
Issued by	Compliance Department
Revision date	11/04/2018
Revision	9
Supersedes date	27/04/2016
SDS number	0307
SDS status	Approved.
Hazard statements in full	H226 Flammable liquid and vapour. H335 May cause respiratory irritation. H360D May damage the unborn child.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.