Product name	Butoxyl ®		NAGH/EN
MSDS number	80189	**Revision Date**	Aug.28.2015
Revision Number	5.01	**Issuing date**	Aug.28.2015

1. Product and company identification

Trade Name

Butoxyl ®

Celanese Sales Germany GmbH & Co. KG
Am Unisys-Park 1
65843 Sulzbach (Taunus)
Germany

Transportation emergency phone numbers:
In USA, call 800 424 9300
Outside USA, call 703 527 3887, collect calls accepted.

Identified uses
Solvent

2. Hazard Identification

GHS Classification

Hazards	**Category**
Flammable liquid	Category 4

Label elements
No Pictogram Required.

Signal Word	Warning
Hazard Statements	Combustible liquid

Precautionary statements
Keep away from open flames/hot surfaces. - No smoking
Wear protective gloves/ eye protection/ face protection.
In case of fire:
Use foam, dry chemical, carbon dioxide (CO2) to extinguish.
Store in a well-ventilated place. Keep cool.
Dispose of contents/ container to an approved waste disposal plant.

3. Composition/information on ingredients

3. Composition/information on ingredients

Components	CAS-No	Percent %
3-Methoxybutyl acetate	4435-53-4	min. 99.5

4. First aid measures

General Information
Remove contaminated, soaked clothing immediately and dispose of safely. Pay attention to own protection. In any case show the physician the Safety Data Sheet.

Skin
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Eyes
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

Inhalation
Keep at rest. Move to fresh air. Call a physician immediately.

Ingestion
Rinse with plenty of water. If conscious, drink plenty of water. If swallowed, do not induce vomiting - seek medical advice.

5. Fire-fighting measures

NFPA: **Health:** 1 **Flammability:** 2 **Instability:** 1

Suitable extinguishing media
Foam, Dry chemical, Carbon dioxide (CO2)

Extinguishing media which must not be used for safety reasons
Do not use a solid water stream as it may scatter and spread fire.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases
Under conditions giving incomplete combustion, hazardous gases produced may consist of
Carbon monoxide
Carbon dioxide (CO2)
Combustion gases of organic materials must in principle be graded as inhalation poisons

Special protective equipment for fire-fighters
self-contained breathing apparatus (EN 133).

Environmental precautions
Water used to fight fire runoff can cause environmental damage. Dike and collect water used to fight fire.

Other Information
Cool containers / tanks with water spray.

6. Accidental release measures

Personal precautions
Avoid contact with the skin and the eyes. Keep away from heat and sources of ignition. Provide adequate ventilation.

Isolation
Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Isolate for 800 meters or 0.5 miles in all directions if tank, rail car, or tank truck in involved in fire. Evacuate downwind areas as conditions warrant to prevent exposure and to allow vapors or fumes to dissipate. Spills may expose downwind areas to toxic or flammable concentrations over considerable distances in some cases.

Environmental precautions
Prevent further leakage or spillage. Do not discharge into the drains/surface waters/groundwater.

Methods for cleaning up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Dispose of in accordance with local regulations.

7. Handling and storage

Advice on safe handling
Provide sufficient air exchange and/or exhaust in work rooms.

Protection - fire and explosion:
Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge. Ground and bond containers when transferring material. In case of fire, emergency cooling with water spray should be available.

Technical measures/Storage conditions
Keep tightly closed in a dry, cool and well-ventilated place. Handle an open container with care.

Material storage
Keep in a dry, cool and well-ventilated place.

Incompatible products
None known

8. Exposure controls / personal protection

OSHA Exposure Limits
No exposure limits established.

ACGIH Exposure Limits
No exposure limits established.

Mexico National Exposure Limits
No exposure limits established

Exposure controls

Engineering measures
General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Protective equipment
A safety shower and eyebath should be readily available.

General advice
Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Use only in an area equipped with a safety shower. Hold eye wash fountain available.

Respiratory protection
Based on workplace contaminant level and working limits of the respirator, use a respirator approved by NIOSH. The following is the minimum recommended equipment for an occupational exposure level. To estimate an occupational exposure level see Section 8 and Section 11.

For concentrations > 1 and < 10 times the occupational exposure level: Use air-purifying respirator with full facepiece and organic vapor cartridge(s) or air-purifying full facepiece respirator with an organic vapor canister or a full facepiece powered air-purifying respirator fitted with organic vapor cartridge(s). The air purifying element must have an end of service life indicator, or a documented change out schedule must be established. Otherwise, use supplied air.

For concentrations more than 10 times the occupational exposure level and less than the lower of either 100 times the occupational exposure level or the IDLH: Use Type C full facepiece supplied-air respirator operated in positive-pressure or continuous-flow mode.

For concentrations > 100 times the occupational exposure level or greater than the IDLH level or unknown concentrations (such as in emergencies): Use self-contained breathing apparatus with full facepiece in positive-pressure mode or Type C positive-pressure full facepiece supplied-air respirator with an auxiliary positive-pressure self-contained breathing apparatus escape system.

For escape: Use self-contained breathing apparatus with full facepiece or any respirator specifically approved for escape.

Eye/face protection:
Wear chemical goggles when there is a reasonable chance of eye contact..

9. Physical and chemical properties

Appearance

Form	liquid
Color	colourless
Odor	weakly
Molecular Weight	146.19
Flash point	68.0°C(154.4°F)
Method	DIN EN ISO 2719
Ignition temperature	410°C (770°F)
Method	DIN 51794

9. Physical and chemical properties

Decomposition Temperature	not determined
Lower explosion limit	~ 1.2 Vol. %
Upper explosion limit	~ 7.7 Vol. %
Melting point/range	< -20°C
Boiling point/range	170°C (338°F) @ 1013 hPa
Density	0.95 g/ml @ 20°C
pH	neutral
Viscosity	0.71 mPa*s @ 20°C
Method	calculated
Vapor pressure	0.34 hPa @ 20°C 5.0 hPa @ 50°C
Vapor density	5.05 (Air=1)
Evaporation Rate	not determined
Water solubility	60.68 g/l @ 25°C
Partition coefficient (n-octanol/water)	1.01 (calculated)

10. Stability and reactivity

Chemical stability
Stable under normal conditions of handling, use and transportation

Conditions to avoid
Avoid any source of ignition Avoid contact with heat, sparks, open flame, and static discharge

Incompatible Materials
None known

Hazardous Combustion or Decomposition Products:
Thermal decomposition products may include oxides of carbon.

Possibility of hazardous reactions
No hazards to be especially mentioned.

11. Toxicological information

Potential health effects

Routes of exposure Skin, Eyes

Immediate effects

Skin	No adverse health effects have been observed.
Eyes	No adverse health effects have been observed.
Inhalation	No adverse health effects have been observed.
Ingestion	Essentially non-toxic.

3-Methoxybutyl acetate

Acute oral toxicity	LD50: > 2000 mg/kg
Acute inhalation toxicity	LC50 (2h): >95000 mg/m³
Skin corrosion/irritation	Not irritating
Species	rabbit
Method	OECD 404
Skin Sensitization	nonsensitizer (Reference substance: n-Butyl acetate)
Species	mouse female
Method	MEST
Serious eye damage/eye irritation	Not irritating
Species	rabbit eye
Method	OECD 405
Carcinogenic effects	No evidence of carcinogenicity
in vitro Mutagenicity	Ames Test: negative - with and without metabolic activation - Method: OECD 471 Mouse lymphoma cell gene-mutation: negative - with and without metabolic activation - Method: OECD 476 (Reference substance: 3-Methoxybutanol) In vitro Mammalian Chromosome aberrations in Chinese Hamster Cells: negative - with and without metabolic activation - Method: OECD 473 (Reference substance: 3-Methoxy-3-methylbutanol)
Reproductive toxicity	No toxicity to reproduction (Reference substance: 3-Methoxy-3-methyl-1-butanol)
Routes of exposure	oral gavage
Species	rat
	NOEL: 1000 mg/kg bw/day
Developmental effects	No evidence of maternal or developmental toxicity
Routes of exposure	oral gavage
Species	rat
	NOAEL: > 1000 mg/kg bw/day
Repeated exposure	Liver and kidney weights increases in the absence of histopathological change (Reference substance: 3-Methoxy-3-methyl-1-butanol)
Routes of exposure	oral gavage
Species	rats
Method	Guideline for the 28-day repeated dose toxicity test in mammalian species
	NOEL: 60 mg/kg bw/day

12. Ecological Information

3-Methoxybutyl acetate

Acute fish toxicity	LC50: 7.1 mg/l (96h)

12. Ecological Information

Species:	Danio rerio (Zebra fish)
Method	OECD 203
Acute daphnia toxicity	EC50: 360 mg/l (24h)
Species:	Daphnia magna
Method	DIN 38412, Part 11
Toxicity to aquatic plants	EC50: > 70 mg/l (72h)
Species:	Pseudokirchneriella subcapitata
Method	OECD 201
Toxicity to bacteria	EC50: > 1000 mg/l (16h)
Species:	Pseudomonas putida
Method	DIN 38412 T.8
Biodegradation	Readily biodegradable > 70 % (10d)
Method	OECD 301 E
Other potential hazards	The substance does not meet the criteria for PBT / vPvB according to REACH, Annex XIII

13. Disposal considerations

Disposal considerations
Dispose of spilled material in accordance with state and local regulations for waste that is non-hazardous by Federal definition. Note that this information applies to the material as manufactured; processing, use, or contamination may make this information inappropriate, inaccurate, or incomplete.

Note that this handling and disposal information may also apply to empty containers, liners and rinsate. State or local regulations or restrictions are complex and may differ from federal regulations. This information is intended as an aid to proper handling and disposal; the final responsibility for handling and disposal is with the owner of the waste.

14. Transport information

US Department of Transportation

UN/NA Number:	NA 1993
Proper Shipping Name	Combustible liquid, n.o.s.
Hazard Inducer	(3-Methoxy-1-butylacetate)
Hazard class	3
Packing Group	III
Emergency Resp. Guide	127

TDG	Not regulated
Mexico Transport Information	Not regulated
ICAO/IATA	Not restricted

14. Transport information

IMDG Not regulated

15. Regulatory Information

US State Regulations

Chemicals associated with the product which are subject to the state right-to-know regulations are listed along with the applicable state(s):

3-Methoxybutyl acetate 4435-53-4

New Jersey Listed

U.S. FEDERAL REGULATIONS

Environmental Regulations:

SARA 311:

Acute health:	No
Chronic health:	No
Fire:	Yes
Sudden release of pressure:	No
Reactive:	No

INTERNATIONAL REGULATIONS

International Inventories

Australia (AICS)
Canada (DSL)
China (IECSC)
Europe (EINECS)
Japan (ENCS)
Japan (ISHL)
Korea (KECI)
New Zealand (NZIoC)
Philippines (PICCS)
United States (TSCA)

16. Other information

NFPA:	Health: 1	Flammability: 2	Instability: 1
HMIS:	Health: 0	Flammability: 2	Physical Hazard: 0

16. Other information

Prepared By
Product Stewardship Department
Celanese

Sources of key data used to compile the datasheet
Information contained in this safety data sheet is based on Celanese owned data and public sources deemed valid or acceptable.. The absence of data elements required by ANSI or 1907/2006/EC indicates that no data meeting these requirements is available..

Other Information:
Observe national and local legal requirements
Changes against the previous version are marked by ***

Abbreviation and Acronym:
ADR = Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS = Chemical Abstracts Service (division of the American Chemical Society)
CLP = Classification, Labelling and Packaging
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial Chemical Substances
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IMO)
ICAO = International Civil Aviation Organization
IMDG = International Maritime Code for Dangerous Goods
LC50 = Lethal Concentration
LD50 = Lethal Dose
LOAEC = Low Observed Adverse Effect Concentration
LOAEL = Low Observed Adverse Effect Level
LOEL = Low Observed Effect Level
MEST = Mouse Ear Swelling Test
NOAEC = No Observed Adverse Effect Concentration
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
NOEL = No Observed Effect Level
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RCR = Risk Characterization Ratio
RID = Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
R-Phrases = Risk Phrases
S-Phrases = Safety Phrases
STOT RE = Specific Target Organ Toxicity Repeated Exposure
STOT SE = Specific Target Organ Toxicity Single Exposure
STP = Sewage Treatment Plant
vPvB = very Persistent and very Bioaccumulative