	MATERIAL SAFETY DATA SHEET	MSDS No.	M-01
BloomchemAG	Acrylamide 50%	Effective From	13/07/2020

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: **ACRYLAMIDE 50%**

Type of product: Mixture.

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

Identified uses: Monomer for polymerization.

Uses advised against: All non-monomeric uses and all uses resulting in aerosols.

1.3. Details of the supplier of the safety data sheet

Company: **Bloomchemag Private Limited**
Unit No. 104-105-108, Tower 1,
Assotech Business Cresterra (ABC),
Sector 135, Noida - 201301 India.

Telephone: +**91 7291970499**

E-mail ***info*@bloomchemag.com**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to UN GHS:

Acute Tox. 4;H302, Acute Tox. 5;H313, Skin Sens. 1B;H317, Eye Irrit. 2B;H320, Muta. 1B;H340, Carc. 1B;H350, Repr. 2;H361, STOT RE 2;H373, Aquatic Acute 3;H402

2.2. Label elements

Labelling according to UN GHS:

Hazard pictogram(s):

Contains:	Acrylamide
Signal word:	Danger
Hazard statement(s):	H302 - Harmful if swallowed H313 - May be harmful in contact with skin H317 - May cause an allergic skin reaction H320 - Causes eye irritation H340 - May cause genetic defects H350 - May cause cancer H361 - Suspected of damaging fertility or the unborn child H373 - May cause damage to organs through prolonged or repeated exposure H402 - Harmful to aquatic life
Precautionary statement(s):	P308 + P313 - IF exposed or concerned: Get medical advice/ attention P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell P302 + P352 - IF ON SKIN: Wash with plenty of soap and water P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P337 + P313 - If eye irritation persists: Get medical advice/ attention

2.3. Other hazards

None.

For explanation of abbreviations see Section 16.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable, this product is a mixture.

3.2. Mixtures

Hazardous components

Acrylamide

Concentration/ -range:	48 - 51%
CAS Number:	79-06-1
Classification according to UN GHS:	Carc. 1B;H350, Muta. 1B;H340, Repr. 2;H361, Acute Tox. 3;H301, Acute Tox. 4;H312, Acute Tox. 4;H332, Skin Irrit. 2;H315, Skin Sens. 1B;H317, Eye Irrit. 2B;H320, STOT RE 1;H372, Aquatic Acute 3;H402

For explanation of abbreviations see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If signs/symptoms continue, get medical attention.

Skin contact:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.

Eye contact:
In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

Ingestion:
If swallowed, and the victim is conscious and alert, induce vomiting immediately, as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

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

Redness of skin, skin rashes, skin peeling, numbness or tingling in extremities and profuse sweating of the hands.

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

None.

Other information:
None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media:
None known.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products:
Thermal decomposition may produce: nitrogen oxides (NOx), carbon oxides (COx). Ammonia (NH3). Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

5.3. Advice for firefighters

Protective measures:
Wear full protective clothing and self-contained breathing apparatus.

Other information:
Cool tanks with water to avoid polymerization. Will not burn until water is evaporated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions:
No action should be taken involving any personal risk or without suitable training. Stay on upwind side.

Protective equipment:
Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

Emergency procedures:
Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Prevent further leakage or spillage if safe to do so.

6.2. Environmental precautions

Do not allow contact with soil, surface or ground water.

6.3. Methods and material for containment and cleaning up

Small spills:
Do not flush with water.Cover and soak up with a suitable absorbent material, e.g. diatomite. Keep in suitable, closed containers for disposal.

Large spills:
Do not flush with water.Do not allow solution to dry. Contain with dike. Pump into suitable and properly labelled containers. One-to-one (volume) dilution is suitable to reduce reactivity.

Residues:
Flush away with large quantities of water.

6.4. Reference to other sections

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid creating aerosols. Use only with adequate ventilation or personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Avoid freezing. The recommended storage temperature is 20 - 27°C. To prevent oxygen loss, do not blanket or purge with an inert gas. Do not store or consume food, drink or tobacco in areas where this material is stored.materials are oxidising materials, reducing materials and initiators.

7.3. Specific end use(s)

Monomer for polymerization.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Recommended occupational exposure limits:

Acrylamide
OSHA: 0.3 mg/m^3 (8 hours)
ACGIH: 0.03 mg/m^3 (8 hours)

8.2. Exposure controls

Appropriate engineering controls:

Provide extraction ventilation at points where emissions occur. The use of mechanical dilution ventilation is recommended whenever this product is used in confined space, is heated above ambient temperatures or otherwise to maintain ambient concentration below the recommended threshold exposure limits.

Individual protection measures, such as personal protective equipment:

a) Eye/face protection:
Splash glasses for normal handling conditions. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

b) Skin protection:
i) Hand protection: Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the break through time measured according to EN 374, due to the numerous outside influences (e.g. temperature). The obtained break through times according to EN 374 Part III are not measured under normal operating conditions. Therefore a maximum usage time of 50% of the break through time is recommended
ii) Other: Chemical resistant apron or protective suit if splashing or repeated contact with solution is likely. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

c) Respiratory protection:
No personal respiratory protective equipment normally required. Where concentrations in air may exceed the limits given in this section, it is recommended to use half face filter mask to protect from overexposure by inhalation. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

d) Additional advice:
Do not wear leather shoes. Do not carry food, drink or cigarettes in areas where this product is handled, stored or processed. Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls:

Avoid/prevent all emissions through measures such as recycling to process, treatment of emissions or incineration.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance:	Clear to slightly yellow liquid.
b) Odour:	None.
c) Odour Threshold:	Not applicable.
d) pH:	6 - 8 (See Technical Bulletin or Product Specifications for a more precise value, if available)
e) Melting point/freezing point:	15°C (crystallization point)
f) Initial boiling point and boiling range:	100°C
g) Flash point:	Does not flash.
h) Evaporation rate:	No data available.
i) Flammability (solid, gas):	Not applicable.
j) Upper/lower flammability or explosive limits:	Not expected to create explosive atmospheres.
k) Vapour pressure:	23 mm Hg @ 25°C (77°F)
l) Vapour density:	No data available.
m) Relative density:	~1.04
n) Solubility(ies):	Completely miscible in water.
o) Partition coefficient:	-1.81
p) Autoignition temperature:	Does not self-ignite (based on the chemical structure).
q) Decomposition temperature:	No data available.
r) Viscosity:	No data available.
s) Explosive properties:	Not expected to be explosive based on the chemical structure.
t) Oxidizing properties:	Not expected to be oxidising based on the chemical structure.

9.2. Other information

None.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactive monomer. Vigorous and hazardous spontaneous polymerisation may occur.

10.2. Chemical stability

Stable at normal ambient temperature and pressure.

10.3. Possibility of hazardous reactions

May polymerise if not correctly stabilised. Self-polymerization is a violent reaction that may cause the rupture of the container. Contact with strong bases liberates ammonia.

10.4. Conditions to avoid

Avoid temperatures above 50°C. Absence of air.

10.5. Incompatible materials

Acids and bases. Oxidizing agents. Reducing agents. Initiators.

10.6. Hazardous decomposition products

Thermal decomposition may produce: nitrogen oxides (NOx), carbon oxides (COx). Ammonia (NH3). Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on the product as supplied:

Acute oral toxicity:	LD50/oral/rat = 354 mg/kg
Acute dermal toxicity:	LD50/dermal/rabbit = 2282 mg/kg (OECD 402)
Acute inhalation toxicity:	LC0/inhalation/6 hours/rat > 11.2 ppm (vapors)
Skin corrosion/irritation:	Not irritating. (OECD 404)
Serious eye damage/eye irritation:	Causes eye irritation. (OECD 405)
Respiratory/skin sensitisation:	Sensitizing to skin.
Mutagenicity:	May cause genetic defects Negative in the Ames Test (OECD 471). Negative in the In vitro Mammalian Cell Gene Mutation Test (OECD 476). Positive in the In Vitro Mammalian Chromosome Aberration Test (OECD 473). Positive in the Rodent Dominant Lethal Test (OECD 478).
Carcinogenicity:	May cause cancer after repeated exposure.
Reproductive toxicity:	Suspected of damaging fertility or the unborn child. Two-Generation Reproduction Toxicity (OECD 416) - NOAEL/rat = 4 mg/kg/day Prenatal Development Toxicity Study (OECD 414) - NOAEL/Maternal toxicity/rat = 5 mg/kg/day - NOAEL/Developmental toxicity/rat = 30 mg/kg/day
STOT - Single exposure:	No known effects.

STOT - Repeated exposure:	Causes neurotoxicity of the peripheral nervous system. NOAEL/oral/rat/90 days > 10 - < 20 mg/kg/day
Aspiration hazard:	No hazards resulting from the material as supplied.

Relevant information on the hazardous components:

Acrylamide

Acute oral toxicity:	LD50/oral/rat = 177 mg/kg (OECD 401)
Acute dermal toxicity:	LD50/dermal/rabbit = 1141 mg/kg (OECD 402)
Acute inhalation toxicity:	LC0/inhalation/6 hours/rat > 5.6 ppm (vapors) (OECD 433) LC0/inhalation/1 hours/rat = 12.1 mg/L (aerosol / mist) (OECD 433)
Skin corrosion/irritation:	Not irritating. (OECD 404)
Serious eye damage/eye irritation:	Irritating to eyes. (OECD 405)
Respiratory/skin sensitisation:	Sensitizing to skin. (OECD 406) No respiratory sensitization has been observed in the workplace.
Mutagenicity:	May cause genetic defects Negative in the Ames Test (OECD 471). Negative in the In vitro Mammalian Cell Gene Mutation Test (OECD 476). Positive in the Rodent Dominant Lethal Test (OECD 478). Positive in the In Vitro Mammalian Chromosome Aberration Test (OECD 473).
Carcinogenicity:	May cause cancer after repeated exposure. Acrylamide is classified as a probable human carcinogen by IARC (Group 2A).
Reproductive toxicity:	Suspected of damaging fertility or the unborn child. Two-Generation Reproduction Toxicity (OECD 416) - NOAEL/rat = 2 mg/kg/day Prenatal Development Toxicity Study (OECD 414) - NOAEL/Maternal toxicity/rat = 2.5 mg/kg/day - NOAEL/Developmental toxicity/rat = 15 mg/kg/day
STOT - Single exposure:	No known effects.
STOT - Repeated exposure:	Causes neurotoxicity of the peripheral nervous system. NOAEL/oral/rat/90 days > 5 - < 10 mg/kg/day
Aspiration hazard:	No known effects.

SECTION 12: Ecological information

12.1. Toxicity

Information on the product as supplied:

Acute toxicity to fish:	NOEC/Oncorhynchus mykiss/96 hours = 360 mg/L
Acute toxicity to invertebrates:	EC50/Daphnia magna/48 hours = 196 mg/L
Acute toxicity to algae:	IC50/Pseudokirchneriella subcapitata/72 hours = 67.7 mg/L.
Chronic toxicity to fish:	NOEC/Cyprinus carpio/28 days = 10 mg/L
Chronic toxicity to invertebrates:	NOEC/Mysidopsis bahia/28 days = 4 mg/L
Toxicity to microorganisms:	NOEC = 4 mg/L (based on biodegradation test)
Effects on terrestrial organisms:	No data available. Readily biodegradable, exposure to soil is unlikely.
Sediment toxicity:	No data available. Readily biodegradable, exposure to sediment is unlikely.

Relevant information on the hazardous components:

Acrylamide

Acute toxicity to fish:	LC50/Oncorhynchus mykiss/96 hours = 180 mg/L (OECD 203)
Acute toxicity to invertebrates:	EC50/Daphnia magna/48 hours = 98 mg/L (EPA 660/3-75-009)
Acute toxicity to algae:	IC50/Pseudokirchneriella subcapitata/72 hours = 33.85 mg/L. (OECD 201)
Chronic toxicity to fish:	NOEC/Cyprinus carpio/28 days = 5 mg/L
Chronic toxicity to invertebrates:	NOEC/Mysidopsis bahia/28 days = 2 mg/L
Toxicity to microorganisms:	NOEC = 2 mg/L (based on biodegradation test)
Effects on terrestrial organisms:	No data available. Readily biodegradable, exposure to soil is unlikely.
Sediment toxicity:	No data available. Readily biodegradable, exposure to sediment is unlikely.

12.2. Persistence and degradability

Information on the product as supplied:

Degradation:	Readily biodegradable. 100% / 28 days (OECD 301 D)
Hydrolysis:	Does not hydrolyse.
Photolysis:	No data available.

Relevant information on the hazardous components:

Acrylamide

Degradation: Readily biodegradable. 100% / 28 days (OECD 301 D)

Hydrolysis: Does not hydrolyse.

Photolysis: No data available.

12.3. Bioaccumulative potential

Information on the product as supplied:

The product is not expected to bioaccumulate.

Partition co-efficient (Log Pow): -1.81

Bioconcentration factor (BCF): < 3

Relevant information on the hazardous components:

Acrylamide

Partition co-efficient (Log Pow): -0.9

Bioconcentration factor (BCF): ~3

12.4. Mobility in soil

Information on the product as supplied:

Koc: < 1

Relevant information on the hazardous components:

Acrylamide

Koc: ~3.5

12.5. Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products:

Whenever possible, send residues and unused product to the production process. In case of contamination, polymerise the product and then send the polymer to landfill or incineration.

Contaminated packaging:

Completely drain containers and retain product residues. Rinse empty containers with water and use the rinse-water to prepare the working solution. Dispose of empty containers in accordance with regulations.

Recycling:

The product and its packaging are not suitable for recycling.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number	UN 3426
14.2. UN proper shipping name	Acrylamide, solution
14.3. Transport hazard class(es)	6.1
14.4. Packing group	III
14.5. Environmental hazards	None.
14.6. Special precautions for user	None.
Transport category	2
Tunnel restriction code	E

Sea transport (IMDG)

14.1. UN number	UN 3426
14.2. UN proper shipping name	Acrylamide, solution
14.3. Transport hazard class(es)	6.1
14.4. Packing group	III
14.5. Environmental hazards	None.
Marine pollutant	No
14.6. Special precautions for user	None.
EmS	F-A, S-A
14.7. Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.

Air transport (IATA)

14.1. UN number	UN 3426
14.2. UN proper shipping name	Acrylamide, solution
14.3. Transport hazard class(es)	6.1
14.4. Packing group	III
14.5. Environmental hazards	None.

14.6. Special precautions for user None.

SECTION 15: Regulatory information

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

None known.

SECTION 16: Other information

NFPA and HMIS Ratings:

NFPA:

Health:	2
Flammability:	1
Instability:	2

HMIS:

Health:	*2
Flammability:	1
Physical Hazard:	1
PPE Code:	D q

This data sheet contains changes from the previous version in section(s):

SECTION 8. Exposure controls/personal protection, SECTION 11. Toxicological information, SECTION 16. Other Information.

Key or legend to abbreviations and acronyms used in the safety data sheet:

Acronyms
STOT = Specific target organ toxicity

Abbreviations
Acute Tox. 3 = Acute toxicity Category Code 3
Acute Tox. 4 = Acute toxicity Category Code 4
Acute Tox. 5 = Acute toxicity Category Code 5
Aquatic Acute 3 = Hazardous to the aquatic environment Acute Category Code 3
Carc. 1B = Carcinogenicity Category Code 1B
Eye Irrit. 2B = Serious eye damage/eye irritation Category Code 2B
Muta. 1B = Germ cell mutagenicity Category Code 1B
Repr. 2 = Reproductive toxicity Category Code 2
Skin Irrit. 2 = Skin corrosion/irritation Category Code 2
Skin Sens. 1B = Skin sensitization Category Code 1B
STOT RE 1 = Specific target organ toxicity — repeated exposure Category Code 1
STOT RE 2 = Specific target organ toxicity — repeated exposure Category Code 2

Hazard statements
H301 - Toxic if swallowed
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H313 - May be harmful in contact with skin
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H320 - Causes eye irritation
H332 - Harmful if inhaled
H340 - May cause genetic defects
H350 - May cause cancer
H361 - Suspected of damaging fertility or the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure
H373 - May cause damage to organs through prolonged or repeated exposure

Training advice:

Do not handle until all safety precautions have been read and understood.

This SDS was prepared in accordance with the following:

UN Globally Harmonized System (GHS), Revision 7

Version: 20.01.b

LDMR001-50A

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.