SAFETY DATA SHEET

according to Regulation EC No.1907/2006 (REACH) and No.2015/830

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier.

Trade name	:	ABV ABS; DURA ABS; DURA ABS Grey.
Synonyms	:	ABV ABS Antimicrobial effect, Filament 1.75mm/450gr; ABV ABS Antimicrobial effect, Pellets 650 gr; ABV ABS Antimicrobial effect, pellets 3 Kg; DURA ABS Graphene Oxide, Filament 1.75mm/450gr; DURA ABS Graphene Oxide, Pellets 650 gr; DURA ABS Graphene Oxide, Pellets 3 Kg; DURA ABS Grey Graphene Oxide, Filament 1.75mm/450gr; DURA ABS Grey Graphene Oxide, Pellets 650gr; DURA ABS Grey Graphene Oxide, Pellets 3 Kg.
Product Number	:	D4402; D4403; D4404; D4502; D4503; D4504; D4602; D4603, D4604
Brand	:	Medphen
Chemical Formula	:	Acrylonitrile butadiene styrene. C15H17N.
CAS Number	:	9003-56-9
EC Number	:	920-401-2
REACH No.	:	A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses	:	**ABV ABS/ DURA ABS/ DURA ABS Grey:** For medical / healthcare applications, transportation, dentistry, medical devices or packaging. **DURA ABS**: Chemical, biological processing, tubes and other uses of medical devices.
Uses advised against	:	

1.3 Details of the supplier of the safety data sheet.

Company	:	MD Graphene SL C/Dublín 19-III, 28232 Las Rozas, Madrid, España
Telephone	:	+34 910594185
E-mail address	:	reg@medphen.com
Web	:	https://www.medphen.com/
Additional information	:	

1.4 Emergency telephone number.

Emergency telephone number	:	Servicio de Información Toxicológica + 34 91 562 04 20 The information will be provided in Spanish (available 24h/365 days)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture.

Classification according to EC Regulation 1272/2008 (CLP Regulation):

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements.

Labelling according to EC Regulation 1272/2008 (CLP Regulation):

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards.

Results of PBT and vPvB assessment:
No data available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances.

Not applicable.

3.2 Mixtures.

Substances presenting a health or environmental hazard within the meaning of Regulation (EC) No. 1272/2008, for which Union workplace exposure limits have been assigned, classified as PBT/vPvB or included in the Candidate List.

No components need to be disclosed according to the applicable regulations.

Identifiers	Name	Chemical concentration	Classification	Specific concentration limits
-	-	-	-	-

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures.

General recommendations:

If you are uncertain or the symptoms persist, seek medical assistance. Never administer anything by mouth to an unconscious person.

In case of inhalation:

In case of inhalation of decomposition products, affected person should be moved into fresh air and kept still. In case of breathing difficulties administer oxygen. If breathing has stopped, give artificial respiration immediately. Seek medical attention.

In case of eye contact:

Immediately flush eyes with plenty of flowing water. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

In case of skin contact:

Wash off with soap and plenty of water. Do not use force or solvents to remove product incrustations from affected skin areas. Cover with sterile dressing material to protect against infection. Take off immediately all contaminated clothing and wash it before reuse. Seek medical attention.

If swallowed:

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a doctor.

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

Dust: Skin irritation, eye irritations and redness

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

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media.

Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture.

In case of fire may be liberated: Nitrogen oxides (NOx), carbon monoxide and carbon dioxide.

Dust generated in handling this material may present a potential fire and explosion hazard if suspended in air at high concentrations. Settled dust presents a fire hazard. Re-suspension of the dust into the air by vibration, traffic, material handling, etc. in high concentrations in the presence of an ignition source could result in a dust explosion. Graphene is electrically conductive and may cause a short circuit in electrical equipment providing an ignition source. Minimize the generation and accumulation of dust.

5.3 Advice for firefighters.

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information.

Do not allow water used to extinguish fire to enter drains, ground or waterways.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures.

Keep the molten mass away from the eyes and the skin. Avoid dust formation. Avoid breathing vapours, mist or gas. Wear appropriate protective equipment. Take off immediately all contaminated clothing and wash it before reuse. Provide adequate ventilation. Provide a conveniently located respiratory protective device.

6.2 Environmental precautions.

No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up.

Collect spilled material in a manner that minimizes the generation of airborne dust. Non-sparking tools should be used. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air.). Clean up residuals on surfaces with suitable floor detergent/soap cleaner and properly rinse and dry. This precaution will prevent a slip hazard.

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections.

For personal protection see section 8.

For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling.

Provide appropriate exhaust ventilation at places where dust is formed. Provide good ventilation at the workplace.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities.

Store with desiccant in a cool, dry place. Store only in original container. Keep container tightly closed in a dry and well-ventilated place away from sources of ignition and oxidizers.

7.3 Specific end use(s).

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters.

Components with workplace control parameters:

This product, as supplied, does not contain any hazardous materials with occupational exposure limits. No hazards are expected under normal use.

Name	CAS number	Country	Control parameter (VLA, biological indicator, DNEL/DMEL, etc.)	Limit value
-	-	-	-	-

8.2 Exposure controls.

Specific considerations:

In case of melting: Provide for good ventilation or exhaust system or work with completely self-contained equipment.

Appropriate engineering controls:

If dust is generated during further processing provide exhaust ventilation.

General industrial hygiene practice.

Personal protective equipment:

Eye/face protection:

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product.

Chemically resistant gloves according to EN 374

In case of melting: Protective gloves against thermic risks according to EN 407.

Body Protection:

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear suitable protective clothing. In case of dust formation: Overall

Respiratory protection:

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure:

No special environmental precautions required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	**:**	Form: solid
Color	**:**	Black and Grey (depending on the item)
Odour	**:**	No data available
Odour Threshold	**:**	No data available
pH	**:**	No data available
Melting point/freezing point	**:**	No data available
Initial boiling point and boiling range	**:**	No data available
Flash point	**:**	No data available
Evaporation rate	**:**	No data available
Flammability (solid, gas)	**:**	No data available
Upper/lower flammability or explosive limits	**:**	No data available
Vapour pressure	**:**	No data available
Vapour density	**:**	No data available
Relative density	**:**	No data available
Partition coefficient: n-octanol/water	**:**	No data available
Auto-ignition temperature	**:**	No data available
Decomposition temperature	**:**	>300ºC
Viscosity	**:**	No data available
Explosive properties	**:**	No data available
Oxidizing properties	**:**	No data available
Nanoparticle size distribution	**:**	No data available
Water solubility	**:**	No data available
Redox potential	**:**	No data available
Catalytic activity	**:**	No data available
Zeta potential	**:**	No data available
Aggregates and agglomerates stability	**:**	No data available

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

9.2 Other safety information

Ignition temperature: >300ºC

Bulk density: 500-700Kg/m3

Softening temperature: 95-105ºC

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

Exothermic reactions

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known.

10.4 Conditions to avoid

Protect against heat /sun rays. Decomposition!

Avoid heat, sparks, flames and all other sources of ignition.

10.5 Incompatible materials

Strong oxidizing agents,

10.6 Hazardous decomposition products

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

In case of fire may be liberated: Nitrogen oxides (NOx), carbon monoxide and carbon dioxide.

In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Skin corrosion/irritation

No data available.

Serious eye damage/eye irritation

No data available.

Respiratory or skin sensitisation

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

IARC: Based on available data, the classification criteria are not met.

Reproductive toxicity

No data available.

Specific target organ toxicity - single exposure

No data available.

Specific target organ toxicity - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional Information

There are no known health risks.

The melted product can cause severe burns.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity.

No data available.

12.2 Persistence and degradability

Product is not readily biodegradable.

12.3 Bioaccumulative potential:

No data available.

12.4 Mobility in soil.

No data available.

12.5 Results of PBT and vPvB assessment.

No data available. PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects.

No data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods.

Product:

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging:

Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

Transport following ADR / TPC regulations for road transport, RID for rail, IMDG for sea and ICAO / IATA for air transport.

14.1 UN Nuber.

ADR/RID: - **IMDG: -** **IATA: -**

14.2 UN proper shipping name

Description:

ADR	**:**	Not dangerous goods
IMDG	**:**	Not dangerous goods
ICAO/IATA	**:**	Not dangerous goods

14.3 Transport hazard class(es).

ADR/RID: - **IMDG: -** **IATA: -**

14.4 Packaging group

ADR/RID: - **IMDG: -** **IATA: -**

14.5 Environmental hazards.

ADR/RID: no **IMDG:** no **IATA:** no

14.6 Special precautions for user.

No data available. **:**

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

No data available.

SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment.

For this product a chemical safety assessment was not carried out

Information about limitation of use:

For use only by technically qualified individuals.

SECTION 16: OTHER INFORMATION

Classification codes:

It is advisable to carry out basic training regarding occupational health and safety in order to handle the product correctly.

Abbreviations and acronyms:

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
OEL: Occupational Exposure Limit Value.
AS/NZS: Australian Standards/New Zealand Standards.
CAS: Chemical Abstracts Service.
CFR: Code of Federal Regulations.
CLP: Classification, Labelling and Packaging.
DMEL: Derived minimal effect level.
DNEL: Derived no-effect level
EC: European Community
EN: European Standard.
EU: Unión Europea. European Union
IATA: International Air Transport Association
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
MARPOL: Pollution: The International Convention for the Prevention of Pollution from Ships
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
TLV: Threshold Limit Value

vPvB: Very persistent and very bioaccumulative.
WEL: Workplace Exposure Limit

Further information:

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. The product should not be used for purposes other than those specified, without first having a written instruction on its handling. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established in current legislation.

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