

Igniters (with Trizinat)

Date: 1.1.2010

Date of rev.: 25.6.2018

Material safety data sheet according to Regulation 1907/2006

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Igniters, Registration No.: Not applicable – article

1.2 Relevant identified uses of the substance or mixture:

Igniters for Airbag Gas generators, belt pretensioners, pyrotechnical battery clip's and other safety systems in automotive applications.

1.3 Details of the supplier of the safety data sheet:

EMS-PATVAG s.r.o. Brankovice 350, 683 33 Brankovice

Tel.: +420 517 302 200, Fax: +420 517 302 222; www.emspatvag.cz, welcome@emspatvag.cz

1.4 Emergency telephone number:

Toxicology information center, 120 00 Praha 2, Na Bojišti 1, tel.:224 919 293, 224 915 402 tis@vfn.cz or national toxicology center in the country of use.

Types:	Code:	Part-No:	Designation:
01	100503	AAZ101B101R215	Tricinat/BKNO ₃
03	100502	AAZ101B101R200	Tricinat/BKNO ₃
05	100722	AAZ120B101R200	Tricinat/BKNO ₃
07	102529	AAZ120B101R180	Tricinat/BKNO ₃
09	100723	AAZ120B101R215	Tricinat/BKNO ₃
11	100764	AAZ140A121R200	Tricinat/YIP661
13	100761	AAZ140A120R200	Tricinat/YIP613
15	102622	AAZ140A120R180	Tricinat/YIP613
17	102620	AAZ140A120R215	Tricinat/YIP613
23	104331	AAZ140B120R215	Tricinat/YIP613
25	104378	AAZ101A629R215	Tricinat/BKNO ₃
27	104371	AAZ120A629R215	Tricinat/BKNO ₃
27 lab.	104375	AAZ100A629R215	Tricinat/BKNO ₃

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2. Hazard identification

2.1 Classification: Expl. 1.3,
Acute Tox. 4,
Repr. 1A,
Eye Dam. 1

2.2 Label elements:



H-Phrases:

H203 Explosive; fire, blast or projection hazard
H360 May damage fertility or the unborn child
H318 Causes serious eye damage
H400 Very toxic to aquatic life

P- Phrases:

P102 Keep out of reach of children
P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking
P250 Do not subject to grinding/shock/.../friction
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection
P240 Ground/bond container and receiving equipment
P370+P380 In case of fire: Evacuate area
P373 DO NOT fight fire when fire reaches explosives

Signal word: Danger

2.3 Other hazards:

Entire igniters are not harmful (see chap. 7). Classification according to EU Regulation 1272/2008 (CLP) and additional information from trade literature and company publishing.

3. Composition/Information or ingredients

The propellant of the Igniters is hermetically closed from the environment. The housing parts are welded together or conjoined and can only be opened by destroying the units. For information the pyrotechnics used are as follows:

Charge	Component 1			Component 2		
	CAS / REACH Nr.	Content / Classif.	H- Phrases	CAS:	Content / Classif.	H- Phrases
BKNO ₃	7440-42-8	Boron (35-45 %)		7757-79-1	Potassium nitrate (55-70 %) Oxid. Solid 3	H272
Trizinat	15245-44-0	Trizinat (100 %) Unst. Expl. Acute Tox. 4 Repr. 1A Aquatic Chronic 1	H200, H302, H332, H360, H400, H410	-----	----	----
YIP613	7778-74-7 REACH Registration number: 01-2120764842-47-0006	Potass. perchlorate (60-75 %) Oxid. Solid 1 Acute Tox. 4	H271, H302	7440-32-6	Titanium (25-40 %)	
YIP661	7778-74-7 REACH Registration number: 01-2120764842-47-0006	Potass. perchlorate (35-50 %) Oxid. Solid 1 Acute Tox. 4	H271, H302	7440-67-7	Zirconium (50-65 %) Pyr. Solid 1 Water React. Flam. Gas 1	H250, H260

Chemical Characteristics: Not applicable for sealed and unscathed Igniters.

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4. First aid measures

When used under stated instructions, exposition of chemicals is not possible. Potential explosion may cause burns or other injury. In case of suspicion of any harm look up for medical help.

- 4.1 In case of inhalation:** Inhalation of igniters is not likely. Generally in case of inhalation of any chemical stop inhalation as soon as possible and move to fresh air. Avoid to coldness. In case of any harm look up for medical help.
- 4.2 In case of skin harm:** Potential explosion may cause burns or other injury. Look up for medical help.
- 4.3 In case eye damage:** Potential explosion may cause eye injury. Look up for medical help.
- 4.4 In case of swallowing:** Clean mouth. Look up for medical help.

5. Firefighting measures

- 5.1 Extinguishing media:** **Suitable:** extinguishing foam, powder, carbon dioxide
Unsuitable: no known unsuitable extinguishing media
- 5.2 Special hazards arising from the substance or mixture:**
Burning igniters may explode and spread particles into surrounding area.
- 5.3 Advice for firefighters:** Keep safe distance from fire (min. 15m). Use/wear protective gloves, cloths, ear protection and approved safety glasses (also for handling of post fired Igniters)

6. Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures:**

During manipulation strictly observe the safety regulations (electrical discharge, ESD shoes, cotton protective cloths, safety glasses etc.). Avoid any el., heat, or another igniting sources.
- 6.2 Environmental precautions:** Not applicable
- 6.3 Methods and material for containment and cleaning up:** Inert igniters in water and dispose according chap.13

7. Handling and storage

- 7.1 Precautions for safe storage:**
Store only in original package in dry, well ventilated areas at 0 °C do +40 °C and rel. humidity 30 - 50 %.
- 7.2 Precautions for safe handling:**
Any manipulation or operation carry out only in ESD ensured areas. Unused igniters store in original package. In any case use package ensured against electrical discharge. Avoid any electrical, heat, or another igniting sources. Dangers of self-ignition (295 °C (~563° F) in time of 60 s.).
- 7.3 Electrical specification:** Elementary electric safety rules, no additional requirements
- 7.4 Temperature rating:** T3; IIA - Mechanical undamaged igniters
- 7.5 Damaged Igniters:** Damaged igniters secure and dispose by water. Any spilled contend of igniters clean up by wet sorbent or wipe. Used sorbents or wipes store in closed bags without air access. Final disposal of waste according chap.13. Don't use hoovers or dry wipes, danger of ignition or fire!
- 7.6 Safe storage, incompatibilities:** Don't store together with oxidation or reduction agents.

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8. Exposure controls/personal protection

8.1 Control parameters:

Electrical specification: IP54
 Equipment/process: The electric process equipment according to IP 54. Further requirements are based on ESD areas.
 Temperature class: T3; IIA Package keep tightly closed. Ventilation recommended.
 Dustiness: Not applicable
 Total concentration: Not applicable

8.2 Exposure controls:

Breathing protection: Not applicable
 Hand protection: protective gloves are not necessary
 Eye protection:: safety glasses
 Hearing protection: Not applicable
 Body protection: Cotton working clothes and ESD shoes (use grounding strip).

9. Physical and chemical properties

Not applicable for sealed and unscathed Igniters.

10. Stability and reactivity

10.1 Reactivity, chemical stability:

At appropriate storage and handling no hazardous reactions are known. Store only in original package in dry, well ventilated areas at 0 °C do +40 °C and rel. humidity 30 - 50 %. Store locked up. Don't store together with drugs, food, drinks, feed etc. Avoid an mechanical damage and heating of igniters. Danger of self-ignition (295 °C (~563° F) in time of 60 s.). Any manipulation or operation carry out only in ESD ensured areas.

10.2 Hazardous decomposition products:

In case of fire may nitrogen oxides, particles of zirconium or titanium occure.

11. Toxicological information

Not applicable for sealed and unscathed Igniters.

12. Ecological information

Not applicable for sealed and unscathed Igniters.

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13. Disposal considerations

Package: Dispose according to national or EU legislation.

Igniters: Active igniters are articles cat. 1.4 unit (ADR). Disposal can provide only authorized companies, with well trained staff by explosion. Disposal of contaminated sorbents and wipes only by incineration in appropriate facility. Until final disposal it must be kept wet.

Igniters	Waste name	Code (EWC)
Active	explosive components (for example air bags)	160110*
Unactive	ferrous metal	160117

14. Transport information

UN shipping name: Igniters

Transport hazard class: 1.4S

UN number.: 0454

15. Regulatory information

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures

European Agreement concerning the International Carriage of Dangerous Goods by Road (**ADR**)

16. Other information

List and full text of used H-Phrases:
H203 Explosive; fire, blast or projection hazard
H360 May damage fertility or the unborn child
H318 Causes serious eye damage
H400 Very toxic to aquatic life

It's not allowed, to use this product in any other application than outlined in Chap. 1.2. It is the user's responsibility to comply with all appropriate regulations.

All above provided information are based on today's knowledge, it's not a guarantee of product characteristics and is not a Legally Binding Agreement.

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Annex

1. Exposure scenario: Igniters for safety systems in automotive applications.

- 1.1 Sector of use: **SU 3:**
Industrial uses: Uses of substances as such or in preparations at industrial sites
- AC 1: Vehicles**
Igniters for Airbag Gas generators, belt pretensioners, pyrotechnical battery clip's and other safety systems in automotive applications.
- 1.2 Process Category: **PROC1:** Use in closed process, no likelihood of exposure
- PC 11: Explosives.**
The propellant of the Igniters is hermetically closed from the environment. The housing parts are welded together or conjoined and can only be opened by destroying the units.
- 1.3 Environmental Release Category
ERC 5: Industrial use resulting in inclusion into or onto a matrix

2. Operational conditions and risk management measures

Use in closed process, no likelihood of exposure

- Physical State: Solid
- Frequency and duration of use: unlimited
- Technical onsite conditions and measures to reduce exposition: Keep container tightly closed.
- Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil:
Any manipulation or operation carry out only in ESD ensured areas. Unused igniters store in original package. In any case use package ensured against electrical discharge. Avoid any electrical, heat, or another igniting sources. Dangers of self-ignition (295 °C (~563° F) in time of 60 s.).
- Other operational conditions of use affecting environmental exposure
Use appropriate safety glasses or facial shield (EN 166), Cotton working clothes and ESD shoes (use grounding strip). Don't store together with chemicals, for example (oxidation or reduction agents).

3. Exposure estimation and references

Use in closed process, no likelihood of exposure. Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management. Measures/Operational Conditions outlined in Section 2 are implemented.

Damaged igniters secure and dispose by water. Any spilled content of igniters clean up by wet sorbent or wipe. Used sorbents or wipes store in closed bags without air access. Final disposal of waste according chap.13. **Don't use hoovers or dry wipes, danger of ignition or fire!**

4. Guidance for Downstream User to check compliance with the Exposure scenario

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.