NOWY LĄD

Safety data sheet

Compliant with the EC Regulation no 1907/2006

developed on: 29 November 2010
updated on: 28 November 2012

2nd issue

section 1. IDENTIFICATION OF PREPARATION AND THE COMPANY

1.1 Product name:

Mining anhydrite binder type GSA PLUS

1.2 Known and dissuaded applications of the preparation

This product is applied within underground mine workings to create gunites, protective zones and cementing plugs as well as to fill voids behind supports.

Detailed information about application, properties and use of the mortar can be found in the product's technical data sheet.

Applications not included in documentation issued by NOWY LĄD Sp. z o.o. shall be consulted with the company's representative.

1.3 Data on the supplier of this safety data sheet:

Kopalnia Gipsu i Anhydrytu „Nowy Ląd" Sp. z o.o. w Niwnicach ["Nowy Ląd" Gypsum and Anhydrite Mine in Niwnice - a limited liability company], 59 – 600 Lwówek Śląski; phone: +48 75 782 43 56 to 58; fax: +48 75 782 35 57

Persons responsible for this safety data sheet:

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1.4 Emergency numbers

112 – emergency number for mobile and fixed telephones
999 – emergency medical service
998 - fire brigade
997 – police
0 800 168 083 – this is a common telephone number to all of the above institutions (available from Monday to Friday between 8:00-16:00; on remaining days the phone calls are answered by an automatic answering machine)

section 2. HAZARD IDENTIFICATION

2.1 Classification of the preparation:

Xi *Irritant preparation. Contains cement.*

2.2 Labelling elements

R 43 *May cause dermal sensitization.*

Xi *Irritant product*
S 2 *Keep beyond the reach of children.*
S 22 *Do not breathe vapours.*
S 26 *In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.*
S 36/37/39 *Wear suitable protective clothing, suitable gloves and eye/face protection.*
S 46 *If swallowed, seek medical advice immediately and show this container or label.*

LABEL:

Irritant product. Contains cement.
May cause dermal sensitization.

Keep beyond the reach of children. Do not inhale vapours! In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, suitable gloves and eye/face protection. If swallowed, seek medical advice immediately and show this container or label.

2.3 Other threats:

- Pursuant to annex 13 to the REACH Regulation on PBT and vPvB: the preparation does not comply with PBT and vPvB criteria
- due to its form (dust) - the product may be irritant to eyes and respiratory system.

section 3. COMPOSITION / INFORMATION ABOUT INGREDIENTS

3.1 Substance: Not relevant

3.2 Preparation: A mixture of anhydrite, activators and Portland cement

3.2.1a Hazardous ingredients:

name	no.	content [%]	labelling	classification (see paragraph16)
Portland cement	CAS no.: 65997-15-1 EC no.: 266-043-4 Registration no.: not relevant	<5	Xi irritant	R37/38; R41, R43

3.2.1b Substances posing threats within a workplace: Anhydrite: CAS no.: 7778-18-9

Other information:

- The product has been classified according to actual contents of hazardous ingredients.
- Time of storage pursuant to conditions specified in section 7 shall be 6 months from the production date indicated on the packaging.
- Content of soluble chromium (VI) in ready-to-use product is <0,0002%

section 4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: Move the person to fresh air. Seek medical advice if necessary.
Skin contact: Remove contaminated clothing and clean thoroughly with water.

Eye contact: Do not rub eyes. Immediately rinse with plenty of water for at least 15 minutes while keeping the eyelids widely open. Remove contact lenses. Contact with eye specialist is mandatory.
Ingestion: Do not induce vomiting. If the person is unconscious or half conscious, do not give anything to drink. Otherwise, wash out mouth with plenty of water. Contact a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed	As opposed to acids, the alkaline products display delayed impact on living tissues, hence it is recommended to avoid a long-lasting and direct contact of a dry or ready-to-use mixture with skin, eyes and respiratory system. Safety guidelines and principles of use indicated on the label should be observed.
4.3 Indication of any immediate medical attention and special treatment needed	Immediately remove product off the skin, eyes and mucosa which would prevent any delayed effects of exposure. In case of any alarming symptoms, immediately seek medical advice, show this safety data sheet, packaging or label. Do not allow the mortar to settle, immediately wash/rinse with water. In case of contact with eyes or mucosa, it is recommended to seek medical advice. Access to running water is recommended due to irritant properties of the product. Use protective lotions in case of a long-lasting and repeated contact with the skin.

section 5. FIRE FIGHTING MEASURES

Every employee should familiarize with information about fire threats within their workplace and the closest vicinity. The workplace should be kept neat and clean at all times. Flammable materials should not be placed near electric devices, stoves and other sources of fire.

In case of fire immediately apply all available measures, alarm persons located within the danger area and call fire brigade (see: section 1.4) providing necessary information that allows for starting fire extinguishing procedures (where the fire has started, i.e. a precise address; what is burning or what kind of emergency is taking place; whether there a threat to human life; telephone number which you are calling from as well as your first and last name)
Then, immediately begin to extinguish fire using locally available extinguishing means and help endangered persons. Evacuate personnel and property if a need arises. These steps should be taken in a way to avoid spreading panic, which may seize persons threatened by the presence of fire and smoke.

Getting into panic may lead to undesired and dramatic consequences when applying emergency and firefighting measures. Thus, in case of fire it is advised to make conscious decisions. Until a fire brigade arrives, any activities shall be supervised by a person specifically appointed to this function. It is worth to remember about protecting the respiratory tract against smoke by way of applying wet tissues and moving within lower parts of the areas which have been considerably smoked.

5.1 Extinguishing media	**Appropriate extinguishing media:** All types of extinguishing media **Inappropriate extinguishing media:** not relevant
5.2 Particular threats posed by the preparation	There are no particular threats connected with properties of the product itself, the combustion products as well as the generated gases.
5.3 Information for fire-fighting units	Every action exposes fire fighters to bodily injuries caused by dangerous substances and elements. That is why professional protective equipment is needed. A helmet that protects the fire fighter's head is the basic piece of equipment. Manufactured of appropriate fibres and very durable. Eyes and face should be protected with a shield made of a polycarbonate. The neck should be covered with a special fabric. In case of an emergency, a fire fighter may wear a non-flammable balaclava under their helmet to protect against high temperatures. Appropriate clothes made of a material which protects against fire, mechanical damage and water-repellency. In case of heavy dust/thick smoke within the fire location, the fire fighter should wear a breathing mask which protects against dust and smoke being inhaled.

section 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency	Avoid circumstances which may lead to emergency situations. Follow the requirements and worksafety principles as well as fire fighting regulations; follow workflow rules and regulations,

procedures	take care of the equipment and refrain from using damaged devices. As far as handling is concerned, refer to section 7; in case of personal protective equipment, refer to section 8. **For non-emergency personnel:** Assess the circumstances. Make sure that any threats to nearby persons (the injured, the emergency personnel) have been eliminated. If a need arises, secure the place of incident and call help. If threats to human life and health have been eliminated, take steps to prevent release of the product into environment and commence cleaning work. **For emergency personnel:** Check whether the injured person responds to any stimuli. If the injured person in unconscious, immediately clear the respiratory tract by moving his/her head and chin upwards and towards the back. Check whether the person is breathing (observe air movement on your cheek) - If the injured person is breathing normally, place him/her in recovery position on a side and check the breath on a regular basis. - If the injured is not breathing, perform CPR (cardiopulmonary resuscitation): Place one of your wrists onto the breastbone in the middle of the chest, apply the other hand and join fingers of the both palms. Keep your elbows extended and compress the breastbone 30 times to a depth of about 4-5cm. Discontinue pressing the person′s chest after each compression, but do not take your hands off the breastbone. Continue with compressing the chest at a pace of about 100 compressions/minute. After 30 compressions clear the respiratory tract again and make two breath-ins (squeeze the nose, open the person′s mouth while keep his/her chin upwards, and breathe out the air into the injured person′s lungs taking a deep breath). If resuscitation does not lift the person′s chest, check whether there are any foreign objects in the mouth which obstruct the respiratory tract. Immediately remove them and check whether the person′s head is taken backwards and the chin directed upwards. Continue compressing the chest and performing breathe-ins at a ratio of 30:2 until emergency services arrive or the injured person starts to breathe on his/her own. If none of the persons from within the area in which the incident took place is able to make breathe-ins, please continue with the compressions only. In case of choking, encourage the injured person to start coughing. In severe cases, lean the person forwards and hit him/her between the shoulder blades 5 times.
6.2 Environmental precautions:	Counteracting release of large volumes of the material into environment (sewage, ground and surface water, soil) through application of dead-end sewage system which allows for collecting the material in the event of a leak while at the same time preventing its release into the environment (emergency and dead-end sewage systems), application of emergency reservoirs and packaging.
6.3 Methods and material for containment and cleaning up:	Vacuum or sweep the area avoiding not to release the dust. Large volumes of waste should be disposed of according to applicable regulations. The product which hardened due to humid conditions may be treated as debris.
6.4 Reference to other sections	Personal protection: section 8 Disposal considerations: section 13

section 7.	**HANDLING AND STORAGE**
7.1 Precautions for safe handling	Avoid dusting when handling with the product. Do not consume food or drinks, do not smoke tobacco. During work with products which contain cement, refrain from wearing watches and rings as well as other items which closely adhere to the skin and may lead to accumulation of the mortar beneath them. In case of a cut, stop the work and apply first aid.
7.2 Conditions for safe storage, including any incompatibilities	Store in closed, genuine and labelled packaging in dry areas, favourably on pallets. Do not expose to direct sunlight, store in a dry, cool and well-ventilated room, far from incompatible materials (see section 10), liquids and food.
7.3 Specific end uses	Keep away from moisture - the product may harden irreversibly. Use pursuant to worksafety principles. Ensure appropriate ventilation, particularly in enclosed areas. Avoid contact with skin and eyes. Detailed information about application, properties and use of the mortar can be found in the product's technical data sheet / catalogue. Applications not included in documentation issued by NOWY LĄD Sp. z o.o. shall be consulted with the company's representative.

section 8.	**EXPOSURE CONTROL AND PERSONAL PROTECTION**
8.1 Control parameters	If the mixture contains ingredients listed in section 3.2.1 pursuant to the **Resolution of the Minister of Social Policy** of 29 November 2002 on the highest admissible concentrations and intensities for agents harmful to health in the working environment (Journal of laws of 2002, no. 271, item 1833) as amended, it is necessary to apply
• **NDS and NDSCh**	supervision measures within the workplace. dust of the Portland and metallurgical cements: - dust NDS – 6 mg/m^3 - respirable dust NDS – 2 mg/m^3
• **DSB** •	anhydrite dust containing < 2% of free crystalline silica and without any content of asbestos: - dust NDS – 10 mg/m^3
monitoring	Not relevant **Resolution of the Minister of Health** of 20 April 2005 on research and measurement of factors harmful to health in the working environment (Journal of laws of 2005, no. 73, item 645) as amended
• **8.2 Exposure control**	
• **8.2.1 Technical measures to prevent exposure**	Ensure proper ventilation during work with the preparation as well as personal protection. Access to running water should be ensured. Refrain from washing your hands in water used for cleaning the tools.
• **8.2.2 Respiratory protection**	A disposable dust-proof half-mask or a mask with P2 particle filter (in case of working in a dusted environment)
• **hands**	Protective knitted gloves - for carrying packaged product; gloves made of rubber or another waterproof material (breakthrough time above 480 minutes pursuant to PN-EN 375 standard) - during work with the product which has been dissolved in water. Use barrier creams.
eyes and face	Protective glasses with sideguards, in case of performing work which may pose a threat to eyes (mixing, pouring). In case of heavy dust, use tightly sealed safety glasses (goggles).
skin	Working clothes with long sleeves and legs, protected against penetration of the material. Long and waterproof boots.

section 9.	**PHYSICAL AND CHEMICAL PROPERTIES**
9.1 Information about basic physical and chemical properties	**Appearance:** white and grey powder **Odour:** no smell **Odour threshold:** not relevant **pH:** 8-11* when mixed with water **Melting / freezing point:** > 1000°C **Initial boiling point and boiling range:** not relevant **Flash point:** not relevant **Evaporation rate:** not relevant **Flammability:** Not relevant **Upper / lower limit of flammability / combustibility:** not relevant **Vapour pressure:** not relevant **Vapour density:** not relevant **Relative density:** from 1.1 to 1.3 g/cm^3 **Solubility:** insoluble **Partition coefficient: n-octanol / water:** not relevant **Spontaneous combustability:** not relevant **Breakdown temperature:** not relevant **Viscosity:** not relevant **Explosive properties:** none **Oxidising properties:** none
9.2 Other information	* - ready-to-use preparation is a thick paste, for which it is impossible to define a precise pH value

section 10. STABILITY AND REACTIVITY	
10.1 Reactivity	Not relevant
10.2 Chemical stability	Appropriately stored cement-based products (section 7) are stable and may be kept together with most of other building materials. When mixed with water, the product condenses to create a stable structure which does not react with environment in regular conditions.
10.3 Possibility of hazardous reactions	Adding powdered aluminium to wet cement mortar may release hydrogen.
10.4 Conditions to avoid	Avoid storing in humid areas because the product may harden.
10.5 Incompatible materials	Powdered aluminium
10.6 Hazardous decomposition products	None are known provided that applicable manners of disposal and handling are obeyed.

section 11.	**TOXICOLOGICAL INFORMATION**
11.1 Information on toxicological effects	Products based on cement are highly hygroscopic and absorb water from any material which they have a contact with, thus it is required to immediately remove all debris that forms on the skin (do not let the product settle on the skin) in order to avoid skin dryness and irritation.
• **Type of exposure: inhalation**	Short-term exposure to dust may cause irritation of the respiratory tract around the nose and throat as well as induce coughing. Frequent and long-term inhalation of the dust increases the risk of respiratory tract diseases.
• **ingestion**	Irritation to mouth, throat and stomach may occur. As the product contains cement, it may cause skin inflammation accompanied by itching.
• **skin**	The skin swells, reddens, becomes scaly and cracked.

	Skin inflammations may occur in two different ways: - through irritation triggered by physical properties of cement which causes mechanical skin irritation. Small cement particles may irritate the skin and cause inflammations. Proper medical treatment usually reduces skin inflammation. In case of prolonged contact, the inflammation will worsen and the skin will be more prone to allergic reactions - and allergic: caused by an allergy to hexavalent chromium, which cement contains. Allergic skin reaction differs from the way in which irritation occurs. Sensitizing agents penetrate the skin protective layers and cause sensitization. Chromate (VI) is the most common cause of allergic skin inflammation among humans (see section 3). Burns are induced by alkalinity of wet cement. In case of prolonged contact between wet material and skin (e.g. during kneeling on it or after it reaches the inside of a shoe or a glove), it is possible that sudden inflammation or ulceration occurs.
• **eyes**	Dust from the product and a mixture of the product and water may be irritating to eyes.

section 12. ECOLOGICAL INFORMATION

4.2 Toxicity	Ecotoxicity effects may occur only in the event of dispersing larger volumes of the product. Particularly, the pH value may increase after contact with water.
12.2 Persistence and degradability	Is not biodegradable, most of the ingredients are natural mineral compounds.
12.3 Bioaccumulative potential	Bioaccumulation coefficient has not been determined
12.4 Mobility in soil	Not mobile
12.5 Results from assessment of PBT and vPvB properties	not relevant
12.6 Other deleterious effects	Not relevant

section 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods **Safe waste disposal:**	Regular waste and hardened product may be treated as debris. Removal of waste to collection sites shall require prior agreement with a respective public body. Owner of the waste is legally required primarily to recycle them. However, if this is impossible due to technological reasons or unreasonable due to ecological or economic reasons, the waste should be disposed of according to requirements of environmental protection and waste management plans. Act pursuant to provisions of the **Act** of 27 April 2001 on waste (Journal of laws of 2001, no. 62, item 628), as amended.
Disposal of packaging materials:	Act pursuant to provisions of the **Act** of 11 May 2001 on packaging and packaging waste (Journal of laws of 2001, no. 63, item 638), as amended.
Waste code:	A packaging contaminated with the product shall be treated in the same way as the product itself. Bring packaging from the mine to the surface (paper bags are flammable) product: 10 13 82 (*Waste from production of mineral cements with manufacturing faults*; 15 01 05 (*Packaging waste – Composite packaging*)

section 14. TRANSPORT CONSIDERATIONS

14.1 UN number	Not relevant
14.2 UN proper shipping name	Not relevant

14.3 Transport hazard classes	If the product is transported in original packaging, it is not hazardous during transport. Does not require special manner of handling or labelling within the meaning of current regulations on transport. Before transporting to the mine, the protective film should be removed from the pallet (the film has not been tested with regard to flammability and static electricity).
14.4 Packing group	Not relevant
14.5 Environmental hazards	Not relevant
14.6 Special precautions for user	Comply with provisions of the **Act** of 28 October 2002 on road transport of hazardous goods (Journal of Laws of 2002 no.199, item.1671) as amended.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	not relevant

section 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the mixture	
• **Legal acts on classification of substances and chemical preparations**	Information on the types of threats pursuant to **Regulation of the Minister of Health** on criteria and manner of classifying chemical substances and preparations (Journal of laws of 2012, item 1018).
• **Legal acts on package labelling of hazardous substances**	(*See section 2.1*) Information on conditions for safe application of hazardous preparations pursuant to **Regulation of the Ministry of Health** on labelling packaging of hazardous substances and hazardous preparations as well as selected chemical preparations (Journal of laws of 2012, item 445) (*See section 2.2*)
• **Other applicable legislation**	- **Act** on chemical substances and their mixtures of 25 February 2011 (Journal of laws of 2011, no. 63, item 322) - **Regulation (EC)** no. 1907/2006 of the European Parliament and the Council of 18 December 2006 on the registration, evaluation, authorisation and restriction of chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/WE and repealing Council regulation (ECC) no 793/93 and Commission regulation (EC) no. 1488/94 as well as Council directive no. 76/769/ECC and Commission directives 91/155/ECC, 93/67/ECC, 93/105/EC and 2000/21/EC as amended - **Resolution of the Minister of Health** of 8 February 2010 on the list of hazardous substances, their classification and labelling (Journal of laws of 2010 no. 27, item 140) as amended - **Resolution of the Minister of Health** of 30 December 2004 on chemicals (Journal of laws of 2005 no. 11, item 86) as amended - **Resolution of the Minister of Economy** of 21 December 2005 on basic requirements for personal protection measures (Journal of laws of 2005 no. 259, item 2173) as amended - annexes A and B to the European agreement on international road transport of hazardous waste (ADR), executed in Geneva on 30 September 1957 (Journal of laws of 2002, no. 194, item 1629) as amended - **Act** of 20 April 2004 on amending and repealing selected acts in connection with awarding membership of the European Union to the Republic of Poland (Journal of laws of 2004, no. 96, item 959) - **Resolution of the Minister of Economy, Labour and Social Policy** concerning general regulations on health and safety at work (Journal of laws of 2003, no. 169, item 1650) consolidated text - **Resolution of the Minister of Environment** of 27 September 2001 on the catalogue of waste and safety at work with hazardous factors (Journal of laws of 2001, no. 112, item 1206) - **Government Statement** of 24 September 2002 on making effective the changes

	- **Resolution of the European Parliament and the Council** (EC) no. 1272/2008 of 16 December 2008 on classification, labelling and packing of substances and mixtures, amending and repealing directives 67/548/ECC and 1999/45/EC as well as amending the resolution (EC) no. 1907/2006
15.2 Chemical safety assessment	Does not apply to mixtures

section 16. OTHER INFORMATION

List of R phrases:	Xi - irritant preparation • R 37/38 – Irritant to respiratory system and skin. • R 41 – Risk of severe damage to eyes. • R 43 – May cause dermal sensitization.
Abbreviations:	**CAS number –** Chemical Abstract Service number **PBT –** Persistent, bio-accumulative and toxic **vPvB –** Very persistent, very bio-accumulative **EC number –** a number attributed to a chemical substance in the European Inventory of Existing Chemical Substances (EINECS) or a number attributed to a substance in the European List of Notified Chemical Substances (ELINCS) or a number in the list of chemical substances included in the publication entitled "No-longer polymers" **REACH regulation –** Regulation on registration, evaluation, authorisation and limitations within the scope of chemicals. **CMR substance/mixture –** a substance/mixture which is carcinogenic, mutagenic and toxic to reproduction. **ADR –** international convention on carriage of hazardous goods. **NDS –** The workplace exposure limit. **NDSCh –** Short-term exposure limit. **GHS –** Globally Harmonized System of Classification and Labelling of Chemicals **CLP –** Regulation introducing the GHS system **DSB –** limit for concentration in biological material
Required training courses:	not relevant
Usage limitations:	not relevant
Other:	During work with the product, pay attention to threats of e.g. twisting (fingers, in particular), arms and shoulders being the consequence of lifting and carrying sacks of mortar, mixing the mortar etc. As far as long-term perspective is concerned, frequent lifting of heavy loads may lead to severe backbone injuries. • This safety data sheet has been prepared by "Nowy Ląd" Gypsum and Anhydrite Mine in Niwnice - a limited liability company. • According to a definition included in the Resolution (EC) no. 1907/2006 of the European Parliament and the Council, the product is a mixture and it is not subject to registration in the REACH system. • According to the Resolution of the European Parliament and the Council (EC) no. 1272/2008, before the 1st of June 2015 mixtures are being classified, labelled and packed pursuant to directive 1999/45/EC; after this date, mixtures will have to be classified, labelled and packed pursuant to the aforementioned CLP Resolution.
Sources of key data used to compile the safety data sheet:	Information contained in this safety date sheet conform with the current state of knowledge and has been gathered for safety reasons, yet does not constitute a guarantee of the product's properties. This safety data sheet shall not release the user from the obligation to comply with all legal and administrative standards as well as regulations on the product and safety at work This data sheet was prepared on the basis of the CPWR (Centre for Construction Research and Training) and ECA (European Cement Association in Cembureau) libraries.

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Changes introduced within the sheet in case of an update:	*General and aligning modifications of the safety data sheet.*