



REHAU[®]

Unlimited Polymer Solutions

RAUVISIO FLAT-LAM PUR

Safety data sheet according to EU 2015/830 No. 1907/2006, article 31

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

1.1 Product identifier

- Trade name / Article-No: RAUVISIO Flat-Lam PUR
- Article number: 13800651001; 13800751001

1.2 Relevant identified uses of the substance / mixture or uses advised against

- No further relevant information available.
- Application of the substance / the mixture: Adhesives

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

REHAU AG + Co
Otto-Hahn-Straße 2
95111 Rehau
Germany

Further information obtainable from:
+49 9283 770
sds@rehau.com

Emergency telephone number:
Available Mo-Thur from 7.30 am to 5.15 pm, Fri from 7.30 am to 3.45 pm (CET)

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 - GHS/CLP:

Resp. Sens. 1	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1	H317 May cause an allergic skin reaction.
Carc. 2	H351 Suspected of causing cancer.

2.2 Label elements

- Hazard pictograms



GHS08

- Signal word: Danger
- Hazard-determining components of labelling: diphenylmethane-4,4'-diisocyanate
- Hazard statements:
 - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 - H317 May cause an allergic skin reaction.
 - H351 Suspected of causing cancer.
- Precautionary statements:
 - P280 Wear protective gloves.

- P261 Avoid breathing vapours.
- P308+P313 If exposed or concerned: Get medical advice/attention.
- Additional information: Contains isocyanates. May produce an allergic reaction.
- Information concerning particular hazards for human and environment:
 - a. Persons already sensitised to diisocyanates may develop allergic reactions when using this product.
 - b. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.
 - c. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

2.3 Other hazards

Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable.

3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

- Description: mixture of synthetic plastics, based on polyurethane
- Dangerous components:

Registry-No's	Identification / Classification	GHS-CLP	%
CAS: 101-68-8	diphenylmethane-4,4'-diisocyanate		< 2,5%
Reg.nr.: 01-2119457014-47-XXXX	STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335		

- Additional information: For the wording of the listed risk phrases refer to section 16.

4 FIRST AID MEASURES

4.1 Description of first aid measures

- After inhalation: Supply fresh air and to be sure call for a doctor.
- In case of unconsciousness: place patient stably in side position for transportation.
- After skin contact:
 - a. After contact with the molten product, cool rapidly with cold water.
 - b. If skin irritation continues, consult a doctor.
 - c. Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water.

4.2 Information for doctor

Most important symptoms and effects, both acute and delayed:

- Asthma attacks
- Allergic reactions

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 FIREFIGHTING MEASURES

5.1 Extinguishing media

- Suitable extinguishing agents: CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: None

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x), Isocyanates, Traces: Hydrogen cyanide (HCN)

5.3 Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- Wear protective equipment.
- Keep unprotected persons away.
- Use respiratory protective device against the effects of fumes/dust/aerosol.

6.2 Environmental precautions

Do not allow to enter surface or ground water.

6.3 Methods and material for containment and cleaning up

- Dispose contaminated material as waste according to item 13.
- Ensure adequate ventilation.

6.4 Reference to other sections

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

- Enclosure or extractor facilities are required.
- Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the vapour concentration below the workplace limit, wear an adequate respiratory protective device.
- Not less than 3-5 air exchanges per hour.
- Wear suitable respiratory protective device when decanting larger

- quantities without extractor facilities.
- Handle the substance preferably in closed system
- Spraying: in vented cabin with laminar air flow
- Prevent formation of dust.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Appropriate regular employee training.
- Avoid contact with the skin.
- Contact with skin and inhalation of aerosols/ vapours of the preparation should be avoided.
- Absorb spilled amount immediately.
- It is advised against using the product if there is a sensitivity of the airways or skin (asthma, chronic bronchitis, chronic skin disease)
- Additional to industrial application with multiple and/or significant contact
- Limit the exposure to 4 hours

Information about fire - and explosion protection:

No special measures required

7.2 Conditions for safe storage, including any incompatibilities

- Requirements to be met by storerooms and receptacles: Keep container tightly closed.
- Information about storage in one common storage facility: Observe the national regulations
- Further information about storage conditions: Protect from humidity and water.

7.3 Specific end use(s)

No further relevant information available.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical facilities:

No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

8.1.1 DNELs

101-68-8 diphenylmethane-4,4'-diisocyanate

Dermal DNEL short 50,0 mg/kg (human being)
Inhalative DNEL short 0,1 mg/m³ (human being)
DNEL long term 0,05 mg/m³ (human being)

8.1.2 PNECs

101-68-8 diphenylmethane-4,4'-diisocyanate

PNEC- Freshwater 1 mg/l (x00)
PNEC-seawater 0,1 mg/l (x00)

PNEC-periodic release	10 mg/l (x00)
PNEC-soil	1 mg/kg (x00)
PNEC-wastewater treatment plant	1 mg/l (x00)

8.1.3 Ingredients with biological limit values:

101-68-8 diphenylmethane-4,4'-diisocyanate

BGW (Germany)) 10 µg/g Kreatinin
 Untersuchungsmaterial: Urin
 Probennahmezeitpunkt: Expositionsende
 bzw. Schichtende
 Parameter: 4,4'-Diaminodiphenylmethan

CAS-Nr	Designation of material	Type	Value	Unit
101-68-8	diphenylmethane-4,4'-diisocyanate	AGW (Germany)	Long-term value: 0,05 E 1;=2=(I);DFG, 11, 12, H, Sah, Y	mg/m ³
101-68-8	diphenylmethane-4,4'-diisocyanate	REL (USA)	Ceiling limit: 0,02 0,02 Long-term value: 0,05 0,005 Ceiling limit: 0,2 (10-min) 0,02 (10-min)	mg/m ³ ppm mg/m ³ ppm
101-68-8	diphenylmethane-4,4'-diisocyanate	TLV (USA)	Long-term value: 0,051 0,0005	mg/m ³ ppm
101-68-8	diphenylmethane-4,4'-diisocyanate	WEL (Great Britain)	Short-term value: 0,07 Long-term value: 0,02 Sen; as -NCO	mg/m ³ mg/m ³

8.2 Exposure controls

Llimit the exposure to: 15 minutes

Personal protective equipment:

- General protective and hygienic measures: Do not inhale gases / fumes / aerosols.
- Respiratory protection:
 - If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.
 - Filter A/P2 (EN 14387).
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure
 - use self-contained respiratory protective device.
- Use suitable respiratory protective device in case of insufficient ventilation: At spray application respiratory protection must be worn.
- Protection of hands: Heat resistant gloves.
- Material of gloves: Leather gloves.
- Eye protection: Not required.
- Body protection: Protective work clothing.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

General Information		
Appearance	Form	Solid
	Colour	According to product specification
Odour		Light
Odour threshold		Not determined
pH-value		Not applicable
Change in condition	Melting point/Melting range	Not determined
	Boiling point/Boiling range	Not determined
	Softening temperature / range	ca. 70 °C (ring + ball)
Flash point		Not applicable
Flammability (solid, gaseous)		Not determined
Ignition temperature		> 300 °C
Decomposition temperature		Not determined
Self-igniting		Product is not self-igniting
Danger of explosion		Product does not present an explosion hazard
	Explosion limits:	Lower Upper
		Not applicable Not determined
Vapour pressure		Not applicable
Density at 20 °C		1,1 g/cm ³
Relative density		Not determined
Vapour density		Not applicable
Evaporation rate		Not applicable
Solubility in / Miscibility with water		Insoluble
Partition coefficient (n-octanol/water)		Not determined
Viscosity	Dynamic: Method Brookfield RVT	Not applicable
	Kinematic	Not applicable
	Organic solvents	0,0 %

9.2 Other information

No further relevant information available.

10 STABILITY AND REACTIVITY

- Reactivity: see item 10.3
- Chemical stability: Stable when stored and used properly.
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: Isocyanates.

Additional information:

When hotmelt adhesives are melted and applied, vapours are set free and an unpleasant odour can occur, even if the recommended

working temperature has been observed. Moreover if the prescribed working temperature is exceeded over a longer period, harmful decomposition products can develop. Precautions should be taken to eliminate the vapours, e.g. by using a suitable ventilation system. Therefore measures for the elimination of the vapours have to be taken, e.g. by means of an appropriate ventilation/ exhaust device.

11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

- Acute toxicity: Based on available data, the classification criteria are not met.
- LD/LC₅₀ values relevant for classification:
101-68-8 diphenylmethane-4,4'-diisocyanate
Oral LD₅₀ > 10000 mg/kg (rat) (84/449/EWG, B.1)
Dermal LD₅₀ > 9400 mg/kg (rabbit) (OECD 402)
Inhalative LC₅₀/4h_(dust,mist) 0,49 mg/l (rat) (OECD 403)

11.2 Primary irritant effect

- Skin corrosion/irritation: Based on available data, the classification criteria are not met.
- Serious eye damage/irritation Based on available data, the classification criteria are not met.
- Respiratory or skin sensitisation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

11.3 CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

- Germ cell mutagenicity: Based on available data, the classification criteria are not met.
- Carcinogenicity: Suspected of causing cancer.
- Reproductive toxicity: Based on available data, the classification criteria are not met.
- STOT-single exposure: Based on available data, the classification criteria are not met.
- STOT-repeated exposure: Based on available data, the classification criteria are not met.
- Aspiration hazard: Based on available data, the classification criteria are not met.

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity: 101-68-8 diphenylmethane-4,4'-diisocyanate
LC₅₀ > 1000 mg / l / 96h (fish)
EC₅₀ > 1000 mg / l / 24h (water flea - Daphnia)

12.2 Persistence and degradability

- No further relevant information available.
- Other information: The product is difficultly biodegradable.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

- No further relevant information available.
- Ecotoxicological effects:
- Behaviour in sewage processing plants:
Remark: At correct sewage disposal in small quantities to biological sewage plants failures of the activated sludge are not expected.

Additional ecological information:

General notes: Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

12.5 Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable.

12.6 Other adverse effects

No further relevant information available.

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

13.1.1 Product

- Recommendation: Transfer to a company for special waste or take it to a collection point for hazardous waste.
- Adhesive reacted completely:
Can be disposed of with household garbage in small quantities after curing.
- Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- European waste catalogue: 08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances.

13.1.2 Uncleaned packaging

- Recommendation: Non contaminated packagings may be recycled.
- Empty contaminated packagings thoroughly. Disposal must be made according to official regulations.

14 TRANSPORT INFORMATION

UN-Number	No dangerous good		
UN proper shipping name	Not applicable		
Transport hazard class(es)	ADR	Class	No dangerous good
		Label	-
	IMDG	Class	No dangerous good

Transport hazard class(es)	IATA	Class	Not classified as dangerous goods under IATA regulations
Packing group			Not applicable
Environmental hazards	Marine pollutant		No
Special precautions for user			Not applicable
Transport in bulk according to Annex II of Marpol and the IBC Code			Not applicable

15 REGULATORY INFORMATION

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

See position no 2 - Hazards Identification

EU-Regulations:

- 101-68-8 diphenylmethane-4,4'-diisocyanate: REACH, Annex XVII, No. 56a
- Named dangerous substances - ANNEX I: None of the ingredients is listed.

National regulations:

- D: Waterhazard class Water hazard class 1 (Self-assessment): slightly hazardous for water.

Other regulations, limitations and prohibitive regulations: Restricted to professional users.

National Regulations (others than Germany or EU):

DK: MAL-Code: 00-3

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

16 OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases:

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs through prolonged or repeated exposure.

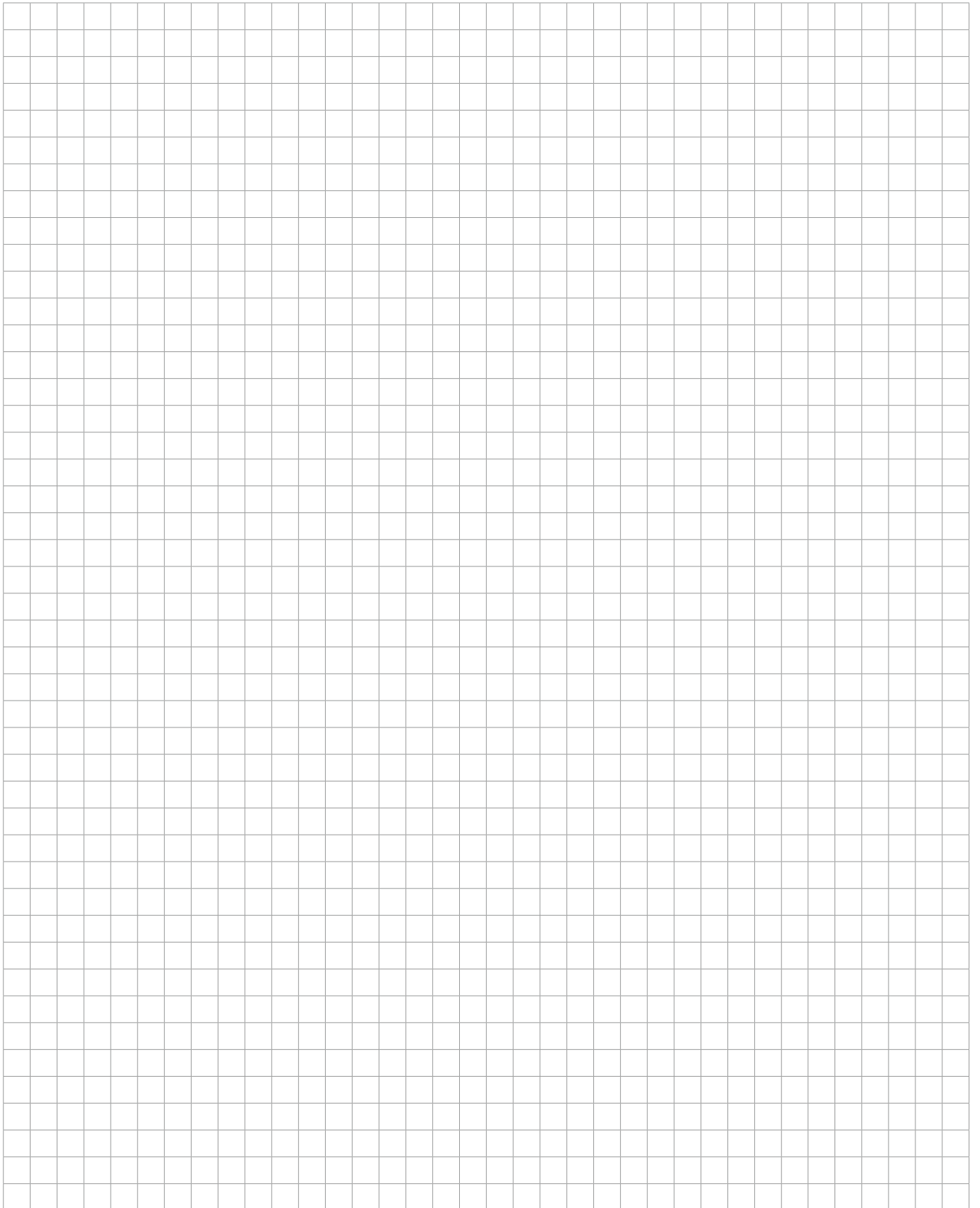
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Abbreviations and acronyms:

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- ICAO: International Civil Aviation Organisation
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- DNEL: Derived No-Effect Level (REACH)
- PNEC: Predicted No-Effect Concentration (REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
- Carc. 2: Carcinogenicity, Hazard Category 2
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
- STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

NOTES



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Subject to technical changes

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