

U-Pellet[®]

台灣優粒子股份有限公司

www.u-pellet.com.tw

Caring for green beauty, cherishing the
Earth's resources

U-Pellet

Taiwan U-Pellet CO., LTD.

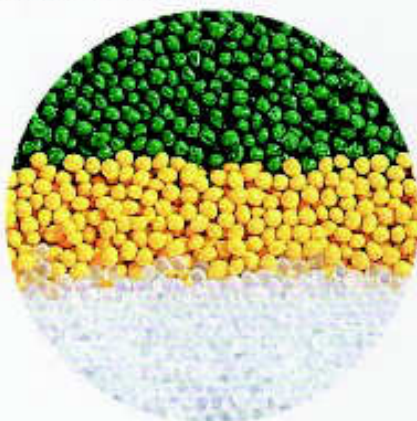


U-Pellet®

Caring for green beauty, cherishing the Earth's resources

愛護 綠色的美，珍惜地球原貌

所有台灣優粒子公司的人都以服務社會的心，貢獻一己之力，為求生活的先進在產品上推陳出新為使距離拉近，在服務上盡善盡美，為保護環境的原貌，在環保上不遺餘力；致力於環境保護政策的推動，亦指示台灣優粒子公司各項產品製造所依循的原則，更是對大眾不變的貢獻。選擇以最實際有效率的方法投入環保工作，就是提供最好射出材料，代替橡膠，完全百分之百可以回收使用的TPR，即是台灣優粒子公司長期投入環保工作最佳證明，目的即在於使完全人類受益。



At Taiwan U-Pellet, we are dedicated to serving the society and pursuing improvement of living quality; our belief is manifested in continuous product innovating and perfecting. To the end of preserving the Earth, Taiwan U-Pellet devotes efforts to implement environmental protection policy in the production of all our products. The uncompromising stance in environmental protection is also our sustained commitment to the public. We engage ourselves in the most efficient manner by means of choosing environmentally friendly material, 100% recyclable TPR, in the place of rubbers, which evidence our long-term commitment to preserving the ecology. The ultimate goal is for the good of mankind.

About *Future*

未來

為配合市場趨勢的整體規劃，年產能10,000公噸的生產工廠已於2004年7月完工並正式生產。未來台灣優粒子公司在生產方面除了添購最新科技的精密化驗儀器，增加新產品種類之外，更加實施嚴格的品質與售後服務，加強人員專業專業訓練，使產業全面提升，以更「和諧、積極、敬業」的精神面對未來，這是台灣優粒子公司對自我的挑戰，更是對客戶誠信的承諾。

Planned in coordination with market trend, An annual capacity of 10,000 tons formally began in July 2004. Taiwan U-Pellet will continue to introduce the latest precision instruments, increase new product lines, further exercise stringent quality control and after-sale service and enhance personnel's professional training for overall industry upgrade. At Taiwan U-Pellet, we uphold the spirit of "harmony, activeness and professionalism" as self- challenge and commitment to our customers.

關於未來



About **Establishment**

創立

台灣優粒子公司早在一九八九年成立，同時在不斷創新信意下，由美國引進氫化級 (SEBS) 系列熱可塑性橡膠原料，在台灣複合製造生產，從此成為專業技術的製造公司。

Taiwan U-Pellet was initially established in 1989. Under the belief of continuous innovation, SEBS raw materials have been imported for manufacturing in Taiwan, investing the company with technical professionalism.

About **Origin**

緣起

源自提供客戶優良的氫化級熱可塑性橡膠等類產品，與追求產品品質技術完美之動力，專營氫化級可塑性橡膠之製造、銷售與服務的台灣優粒子公司，一直以誠信尊重客戶，用高品質產品服務大眾，而這份堅持與努力，使台灣優粒子公司儼然成為國內外供應原料的著名廠商。

Founded to provide customers with excellent hydro-grade thermal moldable rubbers and propelled by pursuit for product quality and technical perfection in achieving sales and services, U-Pellet has upheld the principle of integrity by availing quality products to the public. Such endeavour and commitment have also won U-Pellet solid reputation as a raw material supplier internationally.





未來展望

提高經濟生產效益，降低經營成本，服務客戶，創造最大利潤，正是台灣優粒子公司實際分享股東、同仁、顧客，進而造福人群，貢獻社會的行動。

確保產品的最佳品質是台灣優粒子公司對每一位客戶的承諾，亦是本公司力求精益求精的研發精神。

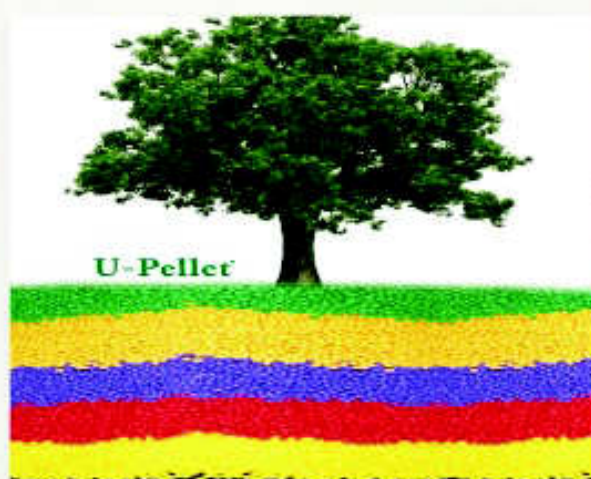
未來台灣優粒子公司仍秉持「品質、技術、服務」企業理念，以尊重客戶利益為一貫經營方針，繼續引進開發更高品質的產品，提供更完善的一元化服務。並在產品的研發、製程上以環保為重，給人類保留一個先進又環保的土地，進而產生良性的永續經營，為企業創造極大化的生命力，與社會大眾共享豐碩的成果。



Future Prospect

Enhancement of economic production efficiency, reduction of operation cost, customer service and generation of mutual optimal profit are Taiwan U-Pellet's actual actions in sharing with the partners, employees, customers and the public as well as reciprocation to the society.

Assuring finest product quality has remained Taiwan U-Pellet's commitment to every customer which is also the company's R&D spirit for sustained improvement. In the future, Taiwan U-Pellet will continue to endeavor in the corporate belief of 'quality, technology and service' in looking out for customer interest. We will continue to introduce and develop products of premium quality, provide a comprehensive service. In terms of new product development, the issue of environmental protection will be emphatic in the course of manufacturing process so as to preserve an advance and healthy environment, and in so doing, enables a sustainable operation and optimizing corporate vitality in sharing with the society.



Technical Service

技術服務



技術服務

至始至終持以最先進的嚴謹態度，是台灣優粒子公司各項專業技術不斷提升的動力。自創立以來，積極性的引進國外最新觀念、方法與技術，近年來更添購斥資增設各項產品專業化驗分析的儀器設備，向更精確品質管理邁進一大步。除此以外，台灣優粒子公司每年不定期聘請日本、美國專業技術人員來台，舉辦各項產品特性技術研討會、教育研修會，培養技術人員保持最佳巔峰的事業新知識。為了讓每一位客戶可以獲得向專業人員直接的服務，台灣優粒子公司兢兢業業的態度，建立生產、銷售、服務一元化的服務體制，從銷售前服務(材料選擇提案、品質特性建議提案、如何節省成本提案)，銷售服務(提供樣本參考、訂貨、交貨等迅速)，銷售後服務(異狀原因追蹤檢討)，提供最完善的專業服務，長期以來深受客戶信賴，奠定良好信譽。

Our dedication to stay abreast of the industry is the constant propelling force for the continuous upgrade of the various technical skills. Since the company's initial establishment, Taiwan U-Pellet has been actively introducing the latest concept, methodology and technology from overseas. In recent years, considerable investment has been made in facilitating various instruments and equipment for testing and analysis, enabling a major leap in the management of precision quality. In addition, Taiwan U-Pellet invites Japanese and American technical professionals to visit Taiwan annually in carrying out various technical workshops and seminars; these activities serve to keep our technical staff in top-notch capability. To enable each customer with direct person-to-person professional service, Taiwan U-Pellet has striven to establish a comprehensive service system in production, distribution and service. From before-sale service (proposal for material selection, quality features, cost savings), during-sale service (availing samples, order processing and prompt delivery) to after-sale service (follow-up and review of irregularity cause), the thorough professional service has won customer trust and sound reputation.



About Foreword

用途

以下列出的是TPE應用的典型用途

生活用具

- 腳踏墊、錶帶、手電筒、衣架、牙刷柄、防滑墊、各種廚具、餐具、刀具、和家用電器等。

工具設備

- 電動、手動工具的手把及其配備，各種工具設備的輪子、腳踏板、手把、和園藝工具等。

汽車配件

- 車燈罩、防塵套、門窗密封條、車用地毯、路墊、擋泥板、檔位扶手套、車燈墊片、後視鏡邊框等。

醫療器材

- 護套、墊圈、草子、針筒、活柱塞、醫療儀器手把、防護手套、束帶、輸血夾器、醫療輔助輪等。

運動器材

- 球拍把手、潛水器材、避震片、球鞋、潛水蛙鏡、跑步機、高爾夫球杆握把、滑雪器材、握刀器、橈腕板、膝肘護套護墊、各種腳踏墊板等。

文具與玩具產品

- 橡皮擦、訂書機、打孔機、筆蓋等文具產品；玩具汽車輪子、美工刀、剪刀、寵物用品等。

鞋材用品

- 鞋底、中底、後跟墊片、按摩鞋墊、鞋配件等。

TPE (Thermoplastic Elastomer) 熱可塑性彈性體，有傳統熱固型橡膠之功能和性質，它可以使用一般製造PE或PVC成品等一樣的技術和設備來加工，而且TPE在本質上屬於熱可塑性，所以可以回收再使用。

其料主要特性如下

耐候性佳、耐化學性(酸、鹼、鹽)高抗張及低壓縮變形，可回收100%回收、加工容易，可適用於射出、押出橡膠彈性體感器。

Given below are the typical applications of TPE.

Household consumer products

- Peddle mat, watchband, torch, hanger, toothbrush handle, non-skid mat, variety of kitchen tools, tableware, knives, household electric appliance and etc.

Tool equipment

- Hardware, electro-motion, manual tools handle and fittings, all kinds of wheels for tool equipment, pedals, and gardening tools.

Car fittings

- Lamps covers, car covers, car carpet, mat, door window sealing strip, fender board, shift armrest cover, dynamic washer, rearview mirror frame and etc.

Medical appliance

- Protective covers, pads, plugs, syringe tubes, plungers, medical equipment handle, safety crown, loincloth, transfusion utensils, medical training wheel and etc.

Body-building equipment

- Rocket handles, diving equipment, shock absorbing pads, diving fins, diving goggle, golf cue handle, ski equipments, dumb-bells, chest expander, knee-elbow jacket and matting, variety of pedal pad and etc.

Stationary, and toys articles

- Eraser, stapler, paper cutter, shiletta machine, pen cap, pen with soft grip, and other stationary, knife, scissor, game machine handle, pet appliance and etc.

TPE (Thermoplastic Elastomer) possessed the functions and properties of traditional thermal molding rubber, it can be worked and machined with the same techniqes moreover, TPE is a kind of material with thermo plasticity in nature, so it can be recycled, and its primary characteristics are as follows: Good weather resistance and chemical resistance (acid, alkali, salt). High tension resistance and low compression deformation. No sulfurization required. 100% recyclable, easy machining, applicable for injection and extrusion moulding. With rubbery

About Provide

E series

E系列

- 高純度氫化碳材料
- 耐候性佳
- 良好的耐老化性
- 橡膠的絕緣電氣性優越
- 抗化學性（酸、鹼、鹽）
- 柔軟性、透明性顯色澤活躍
- 橡膠彈性觸感最佳

● E-1000系列

材料色系：NC或透明色

適用範圍：食品容器、運動器材（蛙鏡、海綿球、遊戲片）清潔滾筒等。

● E-2000系列

材料色系：黑色

適用範圍：運動器材、手工具握把、腳踏車握把、止滑用品、防塵套等。

● E-3000系列

材料色系：白色

適用範圍：運動器材、手工具握把、腳踏車握把、雙色射出、適合各種工業製品。

E series

- High purity hydrogenated material.
- Good weather resistance.
- Good aging resistance
- Excellent rubbery electrical insulation.
- Chemical resistance (acid, alkali, salt).
- Softness, transparency, colorable
- Rubbery elasticity and touch.

● E-1000 series

Material color code:NC or transparent.

Scope of usage:food container and package, body-building equipments (goggle, beach ball, cushion pad) and cleaning rollers, etc.

● E-2000 series

Material color code: Black.

Scope of usage: sporting goods equipments, hand tools handles, bicycle grips, non-skid products, dust covers, etc.

● E-3000 series

Material color code:White

Scope of usage: sporting goods equipments, hand tools handles, bicycle grips, bi-color and double injection, applicable to various industrial products.



S Series



S系列

- 一般 TPE材質
- 一般普通用途經濟性、實用性
- 可取代PVC之材料

S series

- General TPE material properties
- General, economical, practical usage
- Substituting for PVC material



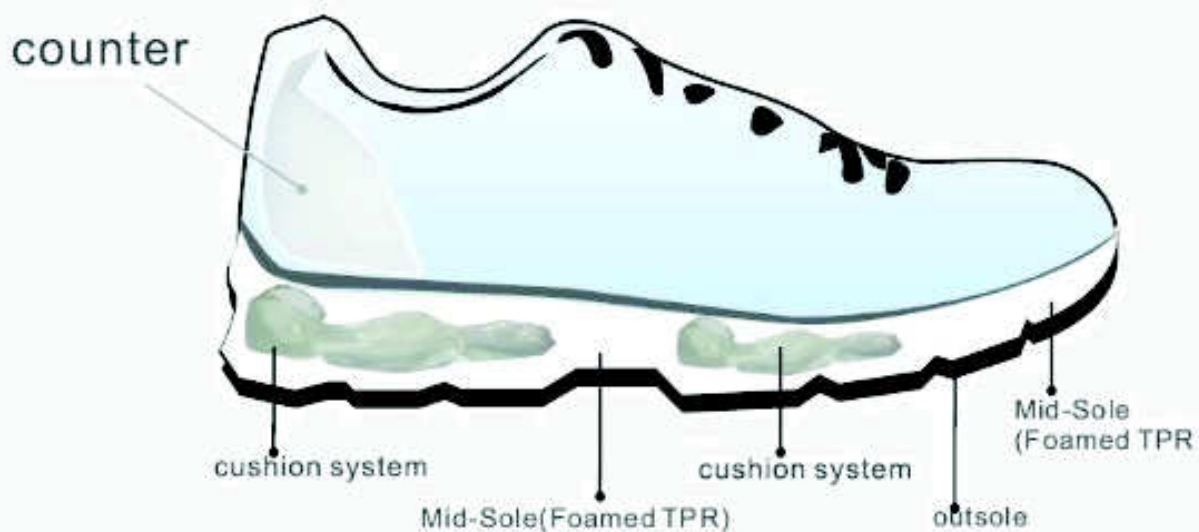
R Series

R系列

- 未氧化材料(高級材料)
- 鞋材(后蓋、避震片、鞋筋片)適用
- 可用於黏著
- 硬度可由Shore A0°~ Shore D64°
- 可著色研磨

R series

Unhydrogenated material (high class material).
 Material applicable to shoe making (rear cover, cushion pads, decorative films)
 Can be used for bonding.
 Hardness ranges between Shore A0° - Shore D 64°.
 Can be colored for grinding.



TPE E-1000 Series

(Translucent/半透明顆粒)

Item 項目	測試方法 Test Method	單位 Unit	E-1020C-2	E-1040C-3	E-1050AT	E-1065	E-1070	E-1085
Gravity 比重	ASTM D297	g/cm ³	0.86~0.88	0.86~0.88	0.89~0.91	0.87~0.89	0.87~0.89	0.87~0.9
Hardness 硬度	JIS K 6301	Shore C Shore A Shore D	8~10C	21~24C	50~53A	63~67A	68~71A	83~86A
Tensile Strength 抗張強度	ASTM D412C	Kg/cm ²	12~17	15~20	100~120	95~105	44~60	65~95
Elongation 伸長率	ASTM D412C	%	1,000~1,200	1,200~1,400	620~770	700~850	450~650	400~650
Tear Strength 撕裂強度	ASTM D624C	Kg/cm	6~11	8~10	46~55	47~55	27~37	45~65
Melt Flow Index 融溶指數	ASTM D1238	g/10mins	15~23B	3~6B	2~4E	2~4G	10~14E	5~8E

*流動指數 Melt Flow Index

B represents the condition under 125°C/2.16KG

C represents the condition under 150°C/2.16KG

E represents the condition under 190°C/2.16KG

G represents the condition under 200°C/5KG

Taiwan U-Pellet passed "AFNOR" the Certificate
ISO9001, ISO14001 and OHSAS 18001.

U-Pellet®

TPE E-2000 Series

(Black/黑色顆粒)

Item 項目	測試方法 Test Method	單位 Unit	E-2520	E-2550	E-2560	E-2570	E-2580	E-2595
Gravity 比重	ASTM D297	g/cm ³	0.97~0.99	1.08~1.1	1.07~1.09	1.08~1.1	1.06~1.08	1.02~1.04
Hardness 硬度	JIS K 6301	Shore C Shore A Shore D	21~23A	48~52A	58~62A	68~72A	78~82A	95A
Tensile Strength 抗張強度	ASTM D412C	Kg/cm ²	18~25	25~32	37~43	40~50	55~65	95~120
Elongation 伸長率	ASTM D412C	%	700~900	430~580	380~530	400~550	350~500	550~850
Tear Strength 撕裂強度	ASTM D624C	Kg/cm	11~14	16~21	21~27	28~34	39~44	62~82
Melt Flow Index 融溶指數	ASTM D1238	g/10mins	18~22E	24~30E	17~21E	13~17E	10~13E	4~6E

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U-Pellet®

TPE E-3000 Series

(Natural/本色顆粒)

項目 Item	測試方法 Test Method	單位 Unit	E-3030	E-3045	E-3065	E-3520	E-3545	E-3555M
Gravity 比重	ASTM D297	g/cm ³	1.05~1.07	1~1.02	0.96~0.98	0.97~0.99	1.09~1.11	1.03~1.06
硬度 Hardness	JIS K 6301	Shore C Shore A Shore D	28~32A	43~47A	63~67A	19~21A	43~47A	58~62A
Tensile Strength 抗張強度	ASTM D412C	Kg/cm ²	19~29	32~40	39~46	23~33	28~35	25~37
Elongation 伸長率	ASTM D412C	%	600~850	650~800	380~550	600~800	600~750	350~600
Tear Strength 撕裂強度	ASTM D624C	Kg/cm	10~15	18~22	27~33	10~15	15~20	20~27
Melt Flow Index 融溶指數	ASTM D1238	g/10mins	26~33E	4~6E	15~21E	13~17E	15~19E	13~18E

*流動指數 Melt Flow Index

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E represents the condition under 190°C/2.16KG

G represents the condition under 200°C/5KG

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U-Pellet®

TPE S Series

(Natural/本色顆粒)

Item 項目	測試方法 Test Method	單位 Unit	S-530W	S-540P	S-545BK	S-560	S-570A	S-580
Gravity 比重	ASTM D297	g/cm ³	1.18~1.20	1.19~1.21	1.14~1.20	1.16~1.19	1.14~1.19	1.14~1.18
Hardness 硬度	JIS K 6301	Shore C Shore A Shore D	28~32A	38~40A	43~47A	58~62A	68~72A	78~82A
Tensile Strength 抗張強度	ASTM D412C	Kg/cm ²	14~17	16~22	16~25	24~31	24~32	40~50
Elongation 伸長率	ASTM D412C	%	500~650	350~550	250~550	250~400	150~400	280~400
Tear Strength 撕裂強度	ASTM D624C	Kg/cm	10~14	11~15	12~17	18~23	18~25	30~38
Melt Flow Index 融溶指數	ASTM D1238	g/10mins	13~17E	18~24E	13~18E	13~17E	30~36E	15~20E

*流動指數 Melt Flow Index

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G represents the condition under 200°C/5KG

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U-Pellet®

TPE R Series

(Transparent/透明顆粒 Natural/本色顆粒)

Item 項目	測試方法 Test Method	單位 Unit	R-1010AT	R-1020AT	R-1025AT	R-1035AT	R-2060UV	R-550W
Gravity 比重	ASTM D297	Kg/cm ³	0.87~0.89	0.89~0.91	0.89~0.91	0.89~0.91	1.04~1.07	1.07~1.09
Hardness 硬度	JIS K 6301	Shore C Shore A Shore D	8~10A	19~21A	23~27A	38~40A	61~63A	48~52A
Tensile Strength 抗張強度	ASTM D412C	Kg/cm ²	8~12	18~25	38~44	55~63	40~55	35~43
Elongation 伸長率	ASTM D412C	%	550~850	550~750	750~880	850~1,050	250~450	330~530
Tear Strength 撕裂強度	ASTM D624C	Kg/cm	4~7	8~12	15~20	26~34	22~32	20~26
Melt Flow Index 融溶指數	ASTM D1238	g/10mins	24~28B	31~37C	24~28C	11~15C	14~17E	10~13E

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U-Pellet®

TPE Counter Series

Item 項目	測試方法 Test Method	單位 Unit	R-1095-6	R-1095E	R-1096	R-1098-1	R-60DA
Gravity 比重	ASTM D297	Kg/cm ³	0.97~0.99	0.97~0.99	0.97~0.99	0.97~0.99	0.98~1
Hardness 硬度	JIS K 6301	Shore C Shore A Shore D	44~46D	44~46D	46~48D	49~51D	59~61D
Tensile Strength 抗張強度	ASTM D412C	Kg/cm ²	10↑	11↑	95~110	100~125	14~18
Elongation 伸長率	ASTM D412C	%	240~360	280↑	300~450	250~400	250~350
Tear Strength 撕裂強度	ASTM D624C	Kg/cm	22~28	15↑	50~65	50~65	24~33
Melt Flow Index 融溶指數	ASTM D1238	g/10mins	3~5E	5~7E	3~5E	4~6E	0.6~1.2E
Bending Test 耐曲折指數	ASTM D1052	Times	>30,000	>30,000	>30,000	>30,000	>30,000

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U-Pellet®



E series

E系列建議成型溫度

第一段溫度：180~185°C

第二段溫度：190~195°C

第三段溫度：200~205°C

第四段溫度：190~195°C

Recommended molding temperatures for E series

1st section temperature range: 180~185°C

2nd section temperature range: 190~195°C

3rd section temperature range: 200~205°C

4th section temperature range: 190~195°C

R series

R系列建議成型溫度

第一段溫度：170~175°C

第二段溫度：180~185°C

第三段溫度：190~195°C

第四段溫度：180~185°C

Recommended molding temperatures for R series

1st section temperature range: 170~175°C

2nd section temperature range: 180~185°C

3rd section temperature range: 190~195°C

4th section temperature range: 180~185°C

S series

S系列建議成型溫度

第一段溫度：130~140°C

第二段溫度：150~160°C

第三段溫度：160~170°C

第四段溫度：150~160°C

Recommended molding temperatures for S series

1st section temperature range: 130~140°C

2nd section temperature range: 150~160°C

3rd section temperature range: 160~170°C

4th section temperature range: 150~160°C

實際操作溫度，在不影響物性情況下，由業者自行斟酌加減。

The actual operation temperatures can be at the user's option provided that the physical properties are not affected.

Ionomer Resins series

Ionomer Resins 系列建議成型溫度

- 第一段溫度：175~180°C
- 第二段溫度：180~185°C
- 第三段溫度：190~195°C
- 第四段溫度：180~185°C

Recommended moulding temperatures for Ionomer resin series

- 1st section temperature range: 175--180°C
- 2nd section temperature range: 180--185°C
- 3rd section temperature range: 190--195°C
- 4th section temperature range: 180--185°C



Drying

乾燥

避免將材料放置於相對溼度高的環境中，因為材料的吸溼性會使加工的產品發生穿孔、水痕的現象。本公司的產品即使暴露在高溼度的情況，也不影響其物理功能。

Drying

Avoid to store the materials in environment of high relative humidity because moisture absorption of which could result in holing and water staining of the products.

The physical properties of our company's products always remain stable even when exposed in high humidity condition.

U-Pellet®

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